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VERIFICATION OF TRANSLATION

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declare as follows:

1. That I am well acquainted with both the English and Japanese languages, and

2. That the attached document is a true and correct translation made by me to the best of my knowledge and belief of:

(a) Japanese Patent Application No. Hei 11-192488
Entitled: " HCV POLYMERASES SUITABLE FOR CRYSTAL STRUCTURE ANALYSIS AND METHODS FOR USING THE CRYSTAL STRUCTURES"
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[Document Name] Specification

[Title of the Invention] HCV POLYMERASES SUITABLE FOR CRYSTAL STRUCTURE ANALYSIS AND METHODS FOR USING THE CRYSTAL STRUCTURES

[Claims]

[Claim 1] A hepatitis C virus (HCV) polymerase of the following (a) or (b):

(a) an HCV polymerase consisting of the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to the 570th residue required for column purification; or

(b) an HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 wherein one or more amino acids are deleted, substituted, or added, and wherein the HCV polymerase has an RNA-dependent RNA polymerase activity and an amino acid sequence adjacent to the 570th residue required for column purification.

[Claim 2] The HCV polymerase of claim 1, wherein a sulfur atom in methionine (Met) is substituted by a selenium atom.

[Claim 3] A crystal of HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1.

[Claim 4] A crystal of HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein a sulfur atom in methionine (Met) is substituted by a selenium atom.

[Claim 5] A DNA of the following (a) or (b) encoding HCV polymerase:

(a) a DNA which encodes a protein consisting of the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to the 570th residue required for column purification; or

(b) a DNA which encodes a protein having an RNA-dependent RNA polymerase activity and comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein one or more amino acids are deleted, substituted, or added, and an amino acid sequence adjacent to the 570th residue required for column purification.

[Claim 6] A method for determining a structural coordinate of a cocomplex or a variant of HCV polymerase by the molecular replacement method using the structural coordinate of the HCV polymerase of Table 2.

[Claim 7] A method for designing HCV polymerase inhibitors,

which comprises the step of composing a compound having a molecular structure complementary to an HCV polymerase active site and/or an additional inhibitor-binding site from a structure of a test sample using the structural coordinate of the HCV polymerase of Table 2, or a structural coordinate substantially-equivalent thereto, or a part thereof, as well as the structural coordinate of the test sample.

[Claim 8] A method for evaluating an HCV polymerase-inhibiting activity, which comprises the step of comparing complementarity of a test sample to an HCV polymerase active site and/or an additional inhibitor-binding site using the structural coordinate of HCV polymerase of Table 2, or a structural coordinate substantially-equivalent thereto, or a part thereof, as well as the structural coordinate of the test sample.

[Claim 9] A method of screening for an HCV polymerase inhibitor, which comprises the steps of (a) to (c):
(a) selecting a test sample with a complementarity to an HCV polymerase active site and/or an additional inhibitor-binding site using the structural coordinate of the HCV polymerase of Table 2 as well as the structural coordinate of the test sample;
(b) synthesizing the test sample selected in (a); and
(c) contacting the test sample synthesized in (b) with the HCV polymerase under the presence of an RNA as a template and a substrate to determine HCV polymerase-inhibiting activity.

[Claim 10] An HCV polymerase inhibitor selected by the method of claim 9.

[Detailed Description of the Invention]

[0001]

[Technical Field of Industrial Application]

The present invention relates to HCV polymerases suitable for crystal structure analysis, and the use of the crystal structures. More specifically, the present invention relates to HCV polymerases that can be mass-produced by genetic recombination and have a stable crystal structure, as well as (a) a method for analyzing the crystal structure of an HCV polymerase variant, (b) a method for analyzing the crystal structure of a cocomplex in which HCV polymerase binds

to an inhibitor, and (c) a method for evaluating an HCV polymerase-inhibiting activity which comprises the step of determining the complementarity of a test sample to an of HCV polymerase active site and/or an additional inhibitor-binding site.

[0002]

[Prior Art]

Hepatitis C is a grave problem as it is spread by blood transfusion and such, and more than half of the cases become chronic with a high probability of progressing into cirrhosis and hepatoma. A cause of hepatitis C is known to be the hepatitis C virus (HCV), the gene of which was cloned in 1989 by the immunoscreening method using plasma of chimpanzees infected with human plasma (Science, 244, 359-362 (1989)).

[0003]

Hepatitis C virus is a positive-strand RNA virus with an envelope and comprises RNA encoding a protein consisting of 3010 amino acids. A precursor protein biosynthesized from the RNA in a host is processed into a structural protein forming viral particles (a core protein and two envelope proteins) and a non-structural protein (NS2, NS3, NS4A, NS4B, NS5A, NS5B) by a cellular signalase and a protease encoded by the virus itself. It has been thought that NS2 and NS3 retain the protease activity and are necessary enzymes for processing the precursor protein, and the helicase of NS3 and RNA-dependent RNA polymerase of NS5B are essential for viral replication.

[0004]

At present, interferon ? and interferon ? are used for treating HCV, however, these have little or no effect for many patients. Therefore, there is a strong need for a more effective drug. The development of HCV protease-targeting inhibitors is underway, and studies are also being conducted on inhibitors targeting helicase, RNA-dependent RNA polymerase, and such.

[0005]

An inhibitor for viral proliferation is generally screened by measuring the activity of inhibiting viral proliferation *in vitro* or *in vivo*. However, techniques for conducting viral proliferation

of HCV *in vitro* has not been established yet, and thus, the screening of HCV viral inhibitors is difficult.

In developing inhibitors for enzyme activity, molecular designing of inhibitors has been carried out by computers based on the three-dimensional structure of enzymes to enhance screening efficiency. In this method, candidate compounds are selected and screened, and then the inhibiting activity thereof are determined.

In order to design inhibitory molecules by computers, the crystal structure of an enzyme must be revealed. The crystal structure can be clarified by X-ray analysis. For example, the crystal structures of HIV reverse transcriptase (Nature structural biology, 2, 293-302 (1995); Structure, 3, 365-379 (1995)), interleukin-1? transformation enzyme (WO 95/35367), protease of cytomegalovirus (WO 97/42311), HCV helicase (WO 99/09148), and such, have been analyzed.

Crystal structure analysis using X-rays requires a large amount of enzymes that can be stably crystallized. Thanks to the development of the genetic recombinant technique, a large amount of enzymes can be homogeneously and highly purified. However, it is difficult to obtain enzyme crystals suitable for X-ray analysis, and the structure may not remain stable, even if it was stable at the time of crystallization, and only incomplete structures can be analyzed in many cases. For example, the reported crystal structure of poliovirus RNA-dependent RNA polymerase (Structure 5, 1109-1122 (1997)) is not complete, and only some parts have been analyzed, presumably because the crystallized protein has no stable structure.

[0006]

[Problems to Be Solved by the Invention]

An objective of the present invention is to provide HCV polymerases having a stable crystal structure, and DNA encoding the same.

Another objective of the present invention is to analyze the crystal structure of the HCV polymerases, and provide a structural coordinate useful for crystal structure analysis of HCV polymerase variants and such.

Additionally, the present invention provides a method for

evaluating the inhibiting activity of a compound using a computer based on the crystal structure of an HCV polymerase, and a method of screening for HCV polymerase inhibitors using the evaluation method.

[0007]

[Means to Solve the Problems]

The present inventors discovered that proteins having an addition of an amino acid sequence required for purification at the C-terminus of HCV polymerase are stable even after crystallization. After exhaustive studies, the present inventors successfully clarified the crystal structure to complete the present invention.

Specifically, the present invention provides (1) to (16) as described below.

(1) A hepatitis C virus (HCV) polymerase of the following (a) or (b):

(a) an HCV polymerase consisting of the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to the 570th residue required for column purification; or

(b) an HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 wherein one or more amino acids are deleted, substituted, or added, and wherein the HCV polymerase has an RNA-dependent RNA polymerase activity and an amino acid sequence adjacent to the 570th residue required for column purification.

(2) The HCV polymerase of (1), wherein a sulfur atom in methionine (Met) is substituted by a selenium atom.

(3) A crystal of HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1.

(4) A crystal of HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein a sulfur atom in methionine (Met) is substituted by a selenium atom.

(5) A DNA of the following (a) or (b) encoding HCV polymerase:

(a) a DNA which encodes a protein consisting of the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to the 570th residue required for column purification; or

(b) a DNA which encodes a protein having an RNA-dependent RNA polymerase activity and comprising the amino acid sequence from position 1 to

570 of SEQ ID NO: 1, wherein one or more amino acids are deleted, substituted, or added, and an amino acid sequence adjacent to the 570th residue required for column purification.

(6) A method for determining a structural coordinate of a cocomplex or a variant of HCV polymerase by the molecular replacement method using the structural coordinate of the HCV polymerase of Table 2.

(7) A method for designing HCV polymerase inhibitors, which comprises the step of composing a compound having a molecular structure complementary to an HCV polymerase active site and/or an additional inhibitor-binding site from a structure of a test sample using the structural coordinate of the HCV polymerase of Table 2, or a structural coordinate substantially-equivalent thereto, or a part thereof, as well as the structural coordinate of the test sample.

(8) A method for evaluating an HCV polymerase-inhibiting activity, which comprises the step of comparing complementarity of a test sample to an HCV polymerase active site and/or an additional inhibitor-binding site using the structural coordinate of HCV polymerase of Table 2, or a structural coordinate substantially-equivalent thereto, or a part thereof, as well as the structural coordinate of the test sample.

(9) A method of screening for an HCV polymerase inhibitor, which comprises the steps of (a) to (c):

(a) selecting a test sample with a complementarity to an HCV polymerase active site and/or an additional inhibitor-binding site using the structural coordinate of the HCV polymerase of Table 2 as well as the structural coordinate of the test sample;

(b) synthesizing the test sample selected in (a); and

(c) contacting the test sample synthesized in (b) with the HCV polymerase under the presence of an RNA as a template and a substrate to determine HCV polymerase-inhibiting activity.

(10) An HCV polymerase inhibitor selected by the method of (9).

[0008]

The terms used herein have the following meanings:

"Amino acid sequence required for column purification" means

an amino acid sequence such as a histidine tag, which can be added to proteins for facilitating absorption to column resins for column purification of the protein. Such a histidine tag requires six or more histidines, more preferably six histidines.

"An amino acid sequence wherein one or more amino acids are deleted, substituted, or added" means an amino acid sequence comprising 1 to 20, preferably 1 to 10, and more preferably 1 to 5 amino acids which are deleted, substituted, or added.

"Structural coordinate" is a mathematical coordinate obtained by converting patterns obtained by X-ray diffraction by atoms of HCV polymerase in crystal form into a numerical value. It presents locations of atoms expressed as a three-dimensional coordinate. Specifically, the expression means the structural coordinate shown in Table 2 of Example 2.

"A structural coordinate substantially equivalent to that of HCV polymerase" means a derivative structural coordinate generated as a result of artificially processing the structural coordinate of the HCV polymerase, or a part thereof, by using computers or such. The substantially equivalent structural coordinate preferably includes the structural coordinate shown in Table 2 in which the locations of the atoms are varied within the range of residual mean square deviation ? 0.5 Å or less, and more preferably, ? 0.2 Å or less from the original atoms.

"Molecular replacement method" is a method for determining a phase angle of a protein whose structure is unknown, using as an initial model, the structure of a known protein with the same function. Specific procedures are described in Experimental Chemistry Course 10, Diffraction, Japanese Society of Chemistry, 260-263 (1992), or Methods in Enzymology, 115, 55-77 (1985), edited by M. G. Rossman.

"Cocomplex" means a complex formed by HCV polymerase and a compound having HCV polymerase-inhibiting activity. Cocomplexes include those formed by cocrystals, and those formed by soaking HCV polymerase crystals in a solution containing a compound having HCV polymerase-inhibiting activity.

"Active site" means (1) the region of HCV polymerase in which RNA is replicated using HCV template primer RNA, formed by Asp at

positions 220, 318, and 319, Lys 144, and Arg 158 in the amino acid sequence encoding the HCV polymerase, and/or (2) a hydrophilic, shallow hollow formed by Ser 282, Thr 287, and Asn 291.

"Additional inhibitor-binding site" is not an RNA replication site, but a space generated in the HCV polymerase when RNA is replicated using HCV template primer RNA as a template, and formed by the regions of amino acid residues 213 to 223, 310 to 325, and 348 to 366. These regions include those having 1 to 20, preferably 1 to 10, and more preferably 1 to 5 amino acid shifts towards the N- or C-terminal side.

"A part of a structural coordinate" means a structural coordinate including structures of the active site and/or additional inhibitor-binding site.

"Complementarity to an active site and/or an additional inhibitor-binding site" is determined by calculating the state in which a test sample is integrated conformationally or energically into an active site and/or an additional inhibitor-binding site, and converting into a numerical value, the binding stability of the test sample to the active site and/or additional inhibitor-binding site, or visually modeling the binding stability.

[0009]

The present invention is illustrated simply below.

The present invention provides HCV polymerases suitable for crystal structure analysis, and methods for using the crystal structure.

More specifically, the present invention relates to HCV polymerases that can be mass-produced by genetic recombination and have a stable crystal structure, as well as (a) a method for analyzing the crystal structure of an HCV polymerase variant, (b) a method for analyzing the crystal structure of a cocomplex in which HCV polymerase bound to an inhibitor, and (c) a method for evaluating an HCV polymerase-inhibiting activity which comprises the step of determining the complementarity of a test sample to an of HCV polymerase active site and/or an additional inhibitor-binding site.

[0010]

HCV polymerases suitable for crystal structure analysis and genes thereof

The HCV polymerases suitable for crystal structure analysis of the present invention comprise (a) an HCV polymerase consisting of the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to the 570th residue required for column purification; and (b) HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein one or more amino acids are deleted, substituted, or added, which has an RNA-dependent RNA polymerase activity, and an amino acid sequence adjacent to the 570th residue required for column purification.

HCV polymerases of the present invention can be prepared by standard genetic recombinant techniques.

Specifically, a DNA encoding an HCV polymerase, which consists of DNAs encoding an amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to 570th residue required for column purification, is inserted into a vector. The vector is used to transform, for example, *E. coli*, and the resulting transformants are cultured to isolate the HCV polymerase.

In the polymerase as described above, the amino acid sequence of a known HCV polymerase have been replaced by amino acids which are bound to linkers and are required for column purification. Such a sequence makes purification easy and enables stable crystallization.

The crystals of the obtained HCV polymerase recombinant can be grown by vapor diffusion and used for crystal structure analysis. Furthermore, a cocrystal comprising the polymerase and a compound having HCV polymerase-inhibiting activity, or a crystal prepared by soaking the polymerase in a solution of the compound can also be used for crystal analysis of the cocomplex.

[0011]

It is generally known that even if an amino acid sequence of a protein having a certain physiological activity is slightly modified, for example, by deletion, substitution of one or more amino acids in the amino acid sequence, or addition of one or more amino acids to the amino acid sequence, the physiological activity of the protein may be retained. Therefore, an HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein one or more amino acids are deleted, substituted, or added, which has

an RNA-dependent RNA polymerase activity, and an amino acid sequence adjacent to the 570th residue required for column purification is included in the scope of the present invention.

A variant generated by deletion, substitution, or addition of amino acid, can be prepared by, for example, subjecting the gene encoding the amino acids to site-directed mutagenesis known in the art (for example, Nucl. Acid Research, Vol. 10, No. 20, 6487-6500, 1992).

For example, site-directed mutagenesis can be performed by using synthetic oligonucleotide primers complementary to the single-stranded phage DNA to be subjected to a desirable and specific mutagenesis. In addition to site-directed mutagenesis, methods for deleting, substituting, or adding amino acid sequences include methods in which a gene is treated with a mutagen, or methods in which a gene is cleaved with a restriction enzyme, and a selected gene fragment is removed, added, or substituted, and ligated.

A variant may include a conservatively substituted sequence, meaning that a specific amino acid residue may be substituted by a residue with similar physiochemical properties. Unrestricted examples of a conservative substitution include substitution among amino acid residues with an aliphatic chain, such as substitution among Ile, Val, Leu, or Ala, or substitution between Lys and Arg which are basic amino acids having a polar group.

[0012]

The present invention also provides DNA encoding an HCV polymerase suitable for crystal structure analysis.

Specifically, (a) DNA encoding an HCV polymerase consisting of DNAs encoding the amino acid sequence from position 1 to 570 of SEQ ID NO: 1 and an amino acid sequence adjacent to the 570th residue required for column purification, and (b) DNA encoding an HCV polymerase comprising DNA encoding the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein one or more amino acids are deleted, substituted, or added, which has an RNA-dependent RNA polymerase activity, and an amino acid sequence adjacent to the 570th residue required for column purification.

Since an amino acid can be encoded by more than one codon, any DNA having a nucleotide sequence can be included within the scope

of the present invention as long as the encoded amino acid sequence is identical. Therefore, the DNA of the present invention includes any DNA encoding the amino acid sequence of SEQ ID NO: 1. Additionally, as described above, it is generally known that, when an amino acid sequence of a physiologically active protein is slightly modified, the physiological activity of the protein may be retained. Therefore, DNA encoding an HCV polymerase comprising the amino acid sequence from position 1 to 570 of SEQ ID NO: 1, wherein one or more amino acids are deleted, substituted, or added, which has an RNA-dependent RNA polymerase activity, and an amino acid sequence adjacent to the 570th amino acid residue required for column purification, is included in the present invention. The number of amino acids that are deleted, substituted, or added are 1 to 20 amino acids, preferably 1 to 10 amino acids, and more preferably 1 to 5 amino acids.

[0013]

To analyze the crystal structure of an HCV polymerase by the multiple heavy atom isomorphous replacement method, the HCV polymerase (native HCV polymerase) of SEQ ID NO: 1 was produced and purified by the genetic recombination method.

Additionally, selenoMet HCV polymerase (hereinafter referred to as the SeMet HCV polymerase or the SeMet heavy atom substitution product) in which a sulfur of Met of SEQ ID NO: 1 was substituted with selenium was isolated and purified by culturing transformants that resulted from genetic recombination in a medium in which selenomethionine (hereinafter referred to as SeMet) was added in place of Met.

[0014]

Crystal structure analysis of HCV polymerases

Each crystal of the native HCV polymerase and the selenoMet HCV polymerase was obtained by vapor diffusion. Heavy atom substitution products of each can be prepared by soaking the crystals of the native HCV polymerase in solutions containing platinum, uranium, and osmium. A structural coordinate can be determined by measuring diffraction intensity for the crystals of the obtained heavy atom substitution products and calculating the phase angle by the multiple heavy atom

isomorphous replacement method.

The multiple heavy atom isomorphous replacement method is a method for determining the phase angle of native proteins, comprising comparing diffraction intensity data of protein crystals to which a heavy atom is attached, and that of native protein crystals to which a heavy atom is not attached (a native protein), obtained by x-ray analysis (Experimental Chemistry Course 10, Diffraction, Japanese Society of Chemistry, 253-260 (1992)).

According to the principle of the multiple heavy atom isomorphous replacement method, there is a relationship between each reflection of a structural factor from crystals with a heavy atom (F_{PH}), a structural factor of the native crystal data (F_P), and contribution of the introduced heavy atom (F_H):

[Formula 1] $F_{PH} = F_P + F_H$

$|F_{PH}|$ and $|F_P|$ are numerical values obtained from the experiment. From these data, the location of the heavy atom can be determined, and $|F_H|$ can be calculated to determine the phase angle of each reflection. Subsequently, the structures of the HCV polymerases were determined by obtaining the electron density.

These calculations can be performed using program software DENZO, Shelx, MLPHARE, SHARP, DM, O, etc. The structural coordinates are shown in Table 2 of Example 2.

It is known that in general, even if a structural coordinate for the location of each atom is changed to some extent on a computer, the structure does not largely change and the protein activity is not lost. Therefore, structural coordinates substantially equivalent to those for the HCV polymerases of the present invention include derivative structural coordinates prepared by artificially processing the structural coordinates of the HCV polymerases. Such derivative structural coordinates preferably include those shown in Table 2 in which the locations of the atoms are varied within the range of residual mean square deviation ± 0.5 Å or less, and more preferably, ± 0.2 Å or less from an original structural coordinate.

The structure of an HCV polymerase is shown in Fig. 1, consisting of Finger, Palm, Thumb, and Holder domains. The structure of the known

poliovirus polymerase (Structure 5, 1109-1122 (1997)) comprises Finger, Palm, and Thumb domains and the structures of Finger and Holder domains in HCV polymerase have not been revealed.

[0015]

Determination of the active site and "RNA binding cleft" of the HCV polymerase

The Palm domain of the HCV polymerase was revealed to have a structure similar to HIV reverse transcriptase, *E. coli* or Taq DNA-dependent DNA polymerase, and T7 DNA-dependent polymerase. Comparison of the conserved amino acids sequences between the active sites of these known Palm domains and the Palm domain of the HCV polymerase revealed that the active site is the space formed by Asp 220, 318, and 319, Lys 141, and Arg 158, and/or (2) the hydrophilic shallow cavity formed by Ser 282, Thr 287, and Asn 291.

The Thumb domain of the HCV polymerase can structurally move against the Palm and Finger domains and this movement results in the inner space of the Palm domain. This space was confirmed to be formed by the regions of amino acids 213 to 223, 310 to 325, and 348 to 366, by considering the crystal structure thereof. A compound existing in this space presumably inhibits spatial formation. It is rationally assumed that the above-described region of the Palm domain is an additional inhibitor-binding site. The inner space was revealed to be an additional inhibitor-binding site for HCV polymerase. The region may thus shift 1 to 20, preferably 1 to 10, and more preferably 1 to 5 amino acids.

The structural coordinate for the HCV polymerase can be used for the following purposes:

(a) for analyzing the crystal structure of a HCV polymerase variant;

(b) for analyzing the crystal structure of the cocomplex of an HCV polymerase bound to an inhibitor; and

(c) for evaluating the complementarity of a compound with the active site and/or the additional inhibitor-binding site of an HCV polymerase.

[0016]

Crystal structure analysis of a variant or a cocomplex of the HCV

polymerase

Using the structural coordinate for the HCV polymerase shown in Table 2 as models, the phase angle of a variant or a cocomplex of HCV polymerase can be determined. The structural coordinate for the cocomplex can be important information for enhancing the quality of designing and evaluating a compound having a complementarity with the HCV polymerase active site and/or the additional inhibitor-binding site.

In the molecular replacement method, rotational function is calculated from the crystal diffraction intensity data of the variant or the cocomplex of the HCV polymerase and model to determine the orientation of the molecule, and the location of the molecule is determined by calculating the translational function (Acta Crystallogr., 23, 544 (1967)).

This method can be performed by using Amore of program software CCP4 (Council for the Central Laboratory of the Research Councils), Almn of CCP4, etc.

[0017]

Designing of compounds having HCV polymerase-inhibiting activity and evaluating the inhibiting activity

Since RNA replication is carried out in the active site of HCV polymerase, a compound having structural complementarity with the active site would inhibit the polymerase activity. A compound having a complementarity with an additional inhibitor-binding site is presumed to indirectly inhibit polymerase activity.

Such information on the active site and the additional inhibitor-binding site is important for selecting compounds having an HCV polymerase-inhibiting activity using computers and such. Specifically, the binding stability (complementarity) of compounds having HCV polymerase-inhibiting activity with the active site and/or the additional inhibitor-binding site can be compared for selection using computers and such. A leading compound having a complementarity with the active site and/or the additional inhibitor-binding site, and the derivative peripheral compounds can be rationally designed. Furthermore, in synthesis experiments, useless syntheses can be

obviated, and biological activity tests can be efficiently performed.

Complementarity with the active site and/or the additional inhibitor-binding site can be determined, for example, by inputting the structural coordinates of an HCV polymerase and of a test sample to virtual screening programs such as DOCK4 (UCSF) using computers, and obtaining a state in which the test sample is incorporated into the HCV polymerase active site and/or the additional inhibitor-binding site, as a numerical value stable in terms of conformation and energy, or as a visual model. Moreover, the complementarity of the test sample can be obtained using a part of the structural coordinate for the HCV polymerase.

As a virtual screening program, FLEXY DOCK (Tripos) can be used in addition to DOCK4.

As the structural coordinate for the test sample, one obtained from a database having three-dimensional structures of chemical compounds can be used. Alternatively, data obtained by calculating the three-dimensional conformation using program software such as Quanta, Sybyl (Tripos), Insight II (MSI) can be used.

The HCV polymerase-inhibiting activity can be evaluated by comparing the thus-obtained complementarity with the active site and/or the additional inhibitor-binding site of the HCV polymerase.

The molecule of an inhibitor can be designed so as to have the complementarity with the active site and/or the additional inhibitor-binding site, based on the structure of the test sample. The molecules can be designed using the above-described program software Quanta, Sybyl, Insight II, DOCK4, FLEXY DOCK, etc.

[0018]

Screening of an HCV polymerase inhibitor

The HCV polymerase-inhibiting activity can be measured by synthesizing a compound having complementarity with the active site of the HCV polymerase evaluated by the above-described virtual screening, and contacting the synthesized compound with the HCV polymerase in the presence of a template RNA and a substrate ribonucleoside triphosphate (rNTP).

The present invention is specifically illustrated below.

[0019]

[Example 1]

Expression and purification of the native HCV polymerase

As the DNA fragment to be used, a cDNA comprising the His-tag consisting of GSHHHHHH at the C-terminus (SEQ ID NO: 2) was prepared by PCR, using as a template, pDEM22 into which cDNA of HCV-BK was introduced (purchased from the Research Institute for Microbial Diseases of Osaka University), and a set of primers 5BNde11FW (SEQ ID NO: 3) and 5B570HRV (SEQ ID NO: 4). The resulting fragment was inserted into pCR2.1 vector, the sequence was confirmed, and an approximately 1.8 kDa fragment was obtained by partial digestion with *Nde*1 and *E. co*R1.

The thus-obtained fragment was inserted into the *Nde*I and *Eco*RI sites in pET17b vector comprising T7 promoter (NOVAGEN), and the vector was used to transform *E. coli* BL21 (DE3) (NOVAGEN).

The transformants were cultured in 2x YT medium at 30°C. When OD_{620} reached 0.8 to 1.0, IPTG was added thereto to a final concentration of 0.5 mM, and the transformants were further incubated at 30°C for 3 hours to induce production of the target protein.

The resulting cultures were disrupted with a microfluidizer and the soluble fraction thereof was isolated and purified by subsequently adding Ni-NTA agarose thereto, eluting with Mono-S 5/5 (PHARMACIA), and performing gel filtration with Sephacryl S-200 (PHARMACIA).

By analyzing the amino acid sequence of the obtained native HCV polymerase and SeMet heavy atom substitution product, Met at the N-terminus were found to be cleaved. The amino acid sequence is shown in SEQ ID NO: 1.

Expression and purification of SeMet heavy atom substitution product

In the same manner as in the expression and purification of the native HCV polymerase, the 1.8 kD fragment obtained from pDEM22 was inserted into *Nde*I and *Eco*RI sites of pET17b (NOVAGEN), which was used to transform *E. coli* B834 (DE3) (NOVAGEN).

The resulting transformants were cultured in the medium for SeMet substitution in Table 1 at 30°C. When OD_{620} reached 0.8 to 1.0, IPTG

was added thereto to a final concentration of 0.5 mM, and the transformants were further cultured at 30°C for 3 hours to induce the production of the target protein. The soluble fraction was purified in the same manner as the native HCV polymerase.

[Table 1]

Composition of the medium for SeMet substitution

1. Amino acids (g/ml)			
Ala	1.50	Leu	0.70
Arg	1.75	Lys.HCl	1.26
Asp	1.20	Phe	0.40
Cys.HCl/H_2O	0.10	Pro	0.30
Glu	2.00	Ser	6.25
Gln	1.00	Thr	0.70
Gly	1.63	Tyr	0.50
His	0.18	Val	0.70
Ile	0.70		
2. Salts (g/ml)			
Adenosine	1.00	Na-Ac.$3H_2O$	1.50
Guanosine	1.33	Am-Cl	1.50
Thymine	0.33	NaOH	0.85
Uracil	1.00	K_2HPO_4	10.50
Succinic acid	3.00		
3. Metal, selenomethionine, and others			
$MgSO_4.7H_2O$	0.25	Glucose	20.00
$FeSO_4.7H_2O$	0.0042	SeMet	0.75
4. Vitamins			
KAO and MICHAYLUK BASAL VITAMIN solution			10.00 ml/l

Met at the N-terminus in the SeMet heavy atom substitution product was cleaved like in the native HCV polymerase. Additionally, as a result of LC-MS, all sulfur atoms of 12 methionines were replaced by SeMet.

[0020]

[Example 2]

Crystal structure analysis of the HCV polymerase

The resulting native HCV polymerase was crystallized by vapor diffusion in a solution containing 21 to 28% (w/v) polyethylene glycol 4000, 0.2 to 0.35 M ammonium acetate, 0.1 M sodium acetate (NaH acetate), and 0.02 M TES (pH 6.0 to 7.5) at 22.5°C for 2 to 4 weeks. The crystals were then soaked in a solution the composition of which is described above containing heavy atoms, such as platinum, uranium, or osmium, to obtain each heavy atom substitution products.

SelenoMet HCV polymerase was also crystallized by vapor diffusion in the solution containing 21 to 28% (w/v) polyethylene glycol 4000, 0.2 to 0.35 M ammonium acetate, 0.1 M sodium acetate (NaH acetate), and 0.02 M TES (pH 6.0 to 7.5) at 22.5°C for 2 to 4 weeks.

Diffraction intensity of the obtained platinum heavy atom substitution product, uranium heavy atom substitution product, and osmium heavy atom substitution product, as well as the selenoMet HCV polymerase were measured using Raxis IIc (Rigaku), and BL6B of synchrotron facility KEK-PF, and BL45XU of SPring-8.

The X-ray data for the platinum heavy atom substitution product, the uranium heavy atom substitution product, and the osmium heavy atom substitution product were processed with program software DENSO (HKL) and SCALA of program software CCP4 (Council for the Central Laboratory of the Research Councils) for determining the phase angle of each atom. The first locations of the heavy atoms were determined from the data of the uranium heavy atom substitution product and the osmium heavy atom substitution product with Shelx (Professor Sheldrick; Crystallographic Computing 3, Clarendon Press, Oxford 184 - 189 (1985)). Subsequently, the locations of each heavy atom were determined using the program software MLPHARE in CCP4 and SHARP (Buster). The electron density and expansion of the phase within 2.5 Å were calculated using the program software DM in CCP4 to prepare the Fourier map.

The SeMet HCV polymerase comprises the amino acid sequence of SEQ ID NO: 1 in which seleniums bind to 12 Met residues. The differential Fourier map was prepared for this SeMet HCV polymerase in the same manner as described above. The differential Fourier map measured at ? = 1.0400 Å to ? = 0.9797 Å, in which 11 peaks were confirmed, was used as a guide for the structure determination.

The structure of the HCV polymerase was determined based on the obtained Fourier map data using the program software O (DatOno AB).

Refinement and model construction was performed using torsion angle or maximum likelihood refinement of the program software X-PLOR98 (MSI). Ramachandran plot obtained by using the program software PROCHECK (J. Appl. Cryst. 26, 283-290 (1993)) confirmed that there was no amino acid residue with unacceptable structure.

The structural coordinates were shown in Table 2.

[0021]

[Table 2]

Molecular coordinates of structure of the HCV polymerase

	Atom type			Numbers	X	Y	Z	Occ	B
atom	1	CB	SER	1	24.595	6.355	-7.700	1.00	14.36
atom	2	OG	SER	1	24.403	6.849	-6.395	1.00	33.57
atom	3	C	SER	1	24.205	3.980	-7.261	1.00	18.80
atom	4	O	SER	1	23.777	3.593	-6.173	1.00	22.06
atom	5	N	SER	1	22.311	5.540	-7.354	1.00	17.96
atom	6	CA	SER	1	23.641	5.209	-7.924	1.00	16.04
atom	7	N	MET	2	25.181	3.368	-7.917	1.00	19.98
atom	8	CA	MET	2	25.812	2.175	-7.382	1.00	17.12
atom	9	CB	MET	2	26.317	1.276	-8.522	1.00	14.48
atom	10	CG	MET	2	25.215	0.731	-9.392	1.00	12.07
atom	11	SD	MET	2	24.201	-0.549	-8.622	1.00	14.36
atom	12	CE	MET	2	25.522	-1.728	-8.316	1.00	15.13
atom	13	C	MET	2	26.976	2.612	-6.501	1.00	16.76
atom	14	O	MET	2	27.731	3.510	-6.858	1.00	19.33
atom	15	N	SER	3	27.092	1.988	-5.341	1.00	16.24
atom	16	CA	SER	3	28.172	2.277	-4.411	1.00	15.30
atom	17	CB	SER	3	28.103	1.275	-3.252	1.00	10.19
atom	18	OG	SER	3	28.201	-0.061	-3.723	1.00	12.95
atom	19	C	SER	3	29.522	2.145	-5.150	1.00	14.45
atom	20	O	SER	3	30.470	2.880	-4.885	1.00	13.89
atom	21	N	TYR	4	29.593	1.196	-6.075	1.00	14.55
atom	22	CA	TYR	4	30.808	0.968	-6.849	1.00	19.90
atom	23	CB	TYR	4	31.730	-0.024	-6.161	1.00	23.29

	atom	24	CG	TYR	4	32.040	0.242	-4.734	1.00	25.80
	atom	25	CD1	TYR	4	31.257	-0.317	-3.714	1.00	23.72
	atom	26	CE1	TYR	4	31.615	-0.171	-2.388	1.00	23.05
	atom	27	CD2	TYR	4	33.180	0.958	-4.387	1.00	23.13
	atom	28	CE2	TYR	4	33.542	1.108	-3.067	1.00	26.87
	atom	29	CZ	TYR	4	32.760	0.533	-2.075	1.00	23.63
	atom	30	OH	TYR	4	33.171	0.637	-0.772	1.00	29.59
	atom	31	C	TYR	4	30.620	0.399	-8.248	1.00	16.78
	atom	32	O	TYR	4	29.610	-0.230	-8.578	1.00	12.24
	atom	33	N	THR	5	31.653	0.599	-9.048	1.00	16.02
	atom	34	CA	THR	5	31.695	0.049	-10.381	1.00	18.47
	atom	35	CB	THR	5	31.527	1.110	-11.463	1.00	18.54
	atom	36	OG1	THR	5	30.136	1.399	-11.615	1.00	14.33
	atom	37	CG2	THR	5	32.067	0.600	-12.796	1.00	21.94
	atom	38	C	THR	5	33.076	-0.534	-10.449	1.00	16.89
	atom	39	O	THR	5	34.049	0.146	-10.159	1.00	21.07
	atom	40	N	TRP	6	33.168	-1.803	-10.811	1.00	17.19
	atom	41	CA	TRP	6	34.469	-2.441	-10.892	1.00	15.52
	atom	42	CB	TRP	6	34.434	-3.740	-10.096	1.00	13.26
	atom	43	CG	TRP	6	33.924	-3.575	-8.682	1.00	14.65
	atom	44	CD2	TRP	6	34.619	-2.966	-7.586	1.00	7.71
	atom	45	CE2	TRP	6	33.795	-3.085	-6.448	1.00	13.81
	atom	46	CE3	TRP	6	35.860	-2.328	-7.459	1.00	12.05
	atom	47	CD1	TRP	6	32.734	-4.026	-8.178	1.00	14.49
	atom	48	NE1	TRP	6	32.653	-3.737	-6.831	1.00	18.73
	atom	49	CZ2	TRP	6	34.171	-2.597	-5.202	1.00	14.72
	atom	50	CZ3	TRP	6	36.238	-1.839	-6.220	1.00	13.25
	atom	51	CH2	TRP	6	35.392	-1.976	-5.105	1.00	15.70
	atom	52	C	TRP	6	34.900	-2.736	-12.330	1.00	17.14
	atom	53	O	TRP	6	34.073	-3.074	-13.171	1.00	12.10
	atom	54	N	THR	7	36.190	-2.577	-12.616	1.00	19.22
	atom	55	CA	THR	7	36.697	-2.923	-13.936	1.00	19.75
	atom	56	CB	THR	7	38.062	-2.269	-14.251	1.00	18.95
	atom	57	OG1	THR	7	39.045	-2.708	-13.301	1.00	11.09
	atom	58	CG2	THR	7	37.945	-0.729	-14.230	1.00	7.76
	atom	59	C	THR	7	36.890	-4.426	-13.763	1.00	27.76

	atom	60	O	THR	7	35.956	-5.142	-13.383	1.00	30.65
	atom	61	N	GLY	8	38.092	-4.919	-14.005	1.00	32.30
	atom	62	CA	GLY	8	38.318	-6.348	-13.830	1.00	30.63
	atom	63	C	GLY	8	39.469	-6.601	-12.880	1.00	25.34
	atom	64	O	GLY	8	39.624	-7.688	-12.327	1.00	26.59
	atom	65	N	ALA	9	40.259	-5.555	-12.692	1.00	18.42
	atom	66	CA	ALA	9	41.429	-5.567	-11.852	1.00	20.57
	atom	67	CB	ALA	9	41.998	-4.159	-11.757	1.00	21.71
	atom	68	C	ALA	9	41.237	-6.140	-10.454	1.00	25.44
	atom	69	O	ALA	9	40.258	-5.864	-9.739	1.00	28.28
	atom	70	N	LEU	10	42.212	-6.942	-10.074	1.00	23.65
	atom	71	CA	LEU	10	42.230	-7.567	-8.784	1.00	24.29
	atom	72	CB	LEU	10	43.171	-8.770	-8.827	1.00	23.79
	atom	73	CG	LEU	10	42.615	-10.071	-9.422	1.00	21.37
	atom	74	CD1	LEU	10	42.033	-10.895	-8.285	1.00	22.12
	atom	75	CD2	LEU	10	41.549	-9.790	-10.488	1.00	20.05
	atom	76	C	LEU	10	42.778	-6.525	-7.840	1.00	26.02
	atom	77	O	LEU	10	43.620	-5.716	-8.243	1.00	26.63
	atom	78	N	ILE	11	42.290	-6.503	-6.601	1.00	26.01
	atom	79	CA	ILE	11	42.839	-5.557	-5.647	1.00	24.74
	atom	80	CB	ILE	11	41.995	-5.462	-4.382	1.00	25.59
	atom	81	CG2	ILE	11	42.515	-4.345	-3.515	1.00	26.49
	atom	82	CG1	ILE	11	40.528	-5.217	-4.745	1.00	30.67
	atom	83	CD1	ILE	11	40.185	-3.786	-4.986	1.00	26.57
	atom	84	C	ILE	11	44.172	-6.226	-5.341	1.00	23.05
	atom	85	O	ILE	11	44.216	-7.424	-5.107	1.00	21.67
	atom	86	N	THR	12	45.262	-5.475	-5.368	1.00	24.58
	atom	87	CA	THR	12	46.565	-6.085	-5.145	1.00	25.76
	atom	88	CB	THR	12	47.490	-5.739	-6.291	1.00	22.73
	atom	89	OG1	THR	12	47.462	-4.324	-6.502	1.00	22.66
	atom	90	CG2	THR	12	47.039	-6.450	-7.548	1.00	19.62
	atom	91	C	THR	12	47.300	-5.754	-3.857	1.00	26.55
	atom	92	O	THR	12	47.194	-4.652	-3.335	1.00	27.29
	atom	93	N	PRO	13	48.059	-6.726	-3.330	1.00	31.02
	atom	94	CD	PRO	13	48.217	-8.089	-3.879	1.00	32.32
	atom	95	CA	PRO	13	48.829	-6.543	-2.096	1.00	30.95

atom	96	CB	PRO	13	49.042	-7.965	-1.601	1.00	27.26
atom	97	CG	PRO	13	49.111	-8.774	-2.864	1.00	31.67
atom	98	C	PRO	13	50.152	-5.855	-2.417	1.00	34.84
atom	99	O	PRO	13	50.739	-6.101	-3.471	1.00	29.50
atom	100	N	CYS	14	50.613	-4.986	-1.520	1.00	39.99
atom	101	CA	CYS	14	51.891	-4.302	-1.727	1.00	42.73
atom	102	CB	CYS	14	51.794	-2.816	-1.347	1.00	44.03
atom	103	SG	CYS	14	50.790	-2.471	0.117	1.00	45.82
atom	104	C	CYS	14	52.956	-4.973	-0.868	1.00	44.38
atom	105	O	CYS	14	54.141	-5.004	-1.220	1.00	46.34
atom	106	N	ALA	15	52.518	-5.514	0.264	1.00	45.12
atom	107	CA	ALA	15	53.422	-6.178	1.198	1.00	44.03
atom	108	CB	ALA	15	53.231	-5.608	2.608	1.00	40.66
atom	109	C	ALA	15	53.183	-7.677	1.216	1.00	42.16
atom	110	O	ALA	15	52.165	-8.170	0.713	1.00	40.93
atom	111	N	ALA	16	54.144	-8.410	1.765	1.00	36.85
atom	112	CA	ALA	16	53.971	-9.837	1.884	1.00	32.86
atom	113	CB	ALA	16	55.234	-10.469	2.415	1.00	26.99
atom	114	C	ALA	16	52.868	-9.874	2.934	1.00	33.29
atom	115	O	ALA	16	52.869	-9.064	3.862	1.00	37.11
atom	116	N	GLU	17	51.898	-10.760	2.785	1.00	32.39
atom	117	CA	GLU	17	50.851	-10.833	3.789	1.00	26.32
atom	118	CB	GLU	17	49.513	-10.306	3.265	1.00	30.86
atom	119	CG	GLU	17	49.528	-9.677	1.895	1.00	29.77
atom	120	CD	GLU	17	48.157	-9.707	1.254	1.00	33.50
atom	121	OE1	GLU	17	47.415	-8.711	1.424	1.00	32.53
atom	122	OE2	GLU	17	47.819	-10.723	0.595	1.00	32.84
atom	123	C	GLU	17	50.679	-12.255	4.276	1.00	24.51
atom	124	O	GLU	17	50.514	-13.188	3.485	1.00	16.59
atom	125	N	GLU	18	50.739	-12.385	5.600	1.00	26.82
atom	126	CA	GLU	18	50.604	-13.643	6.320	1.00	27.85
atom	127	CB	GLU	18	51.444	-13.571	7.589	1.00	34.84
atom	128	CG	GLU	18	52.921	-13.830	7.394	1.00	42.40
atom	129	CD	GLU	18	53.516	-14.582	8.566	1.00	45.99
atom	130	OE1	GLU	18	54.476	-14.061	9.171	1.00	45.15
atom	131	OE2	GLU	18	53.013	-15.692	8.880	1.00	44.59

atom	132	C	GLU	18	49.151	-13.868	6.708	1.00	29.21
atom	133	O	GLU	18	48.451	-12.931	7.085	1.00	28.56
atom	134	N	SER	19	48.694	-15.111	6.668	1.00	31.66
atom	135	CA	SER	19	47.304	-15.374	7.022	1.00	33.52
atom	136	CB	SER	19	46.517	-15.684	5.751	1.00	31.74
atom	137	OG	SER	19	47.196	-16.652	4.981	1.00	28.18
atom	138	C	SER	19	47.120	-16.510	8.036	1.00	36.81
atom	139	O	SER	19	46.005	-16.787	8.491	1.00	37.53
atom	140	N	LYS	20	48.215	-17.175	8.379	1.00	37.96
atom	141	CA	LYS	20	48.176	-18.280	9.330	1.00	34.72
atom	142	CB	LYS	20	48.764	-19.534	8.677	1.00	34.98
atom	143	CG	LYS	20	47.728	-20.526	8.181	1.00	37.63
atom	144	CD	LYS	20	48.233	-21.968	8.303	1.00	45.68
atom	145	CE	LYS	20	49.654	-22.140	7.741	1.00	50.03
atom	146	NZ	LYS	20	49.751	-23.135	6.616	1.00	51.95
atom	147	C	LYS	20	49.004	-17.877	10.550	1.00	34.35
atom	148	O	LYS	20	50.126	-17.384	10.398	1.00	34.45
atom	149	N	LEU	21	48.463	-18.070	11.751	1.00	33.05
atom	150	CA	LEU	21	49.199	-17.693	12.962	1.00	32.36
atom	151	CB	LEU	21	48.537	-18.280	14.226	1.00	35.12
atom	152	CG	LEU	21	49.026	-17.899	15.644	1.00	28.57
atom	153	CD1	LEU	21	50.301	-17.098	15.601	1.00	29.37
atom	154	CD2	LEU	21	47.943	-17.094	16.349	1.00	27.17
atom	155	C	LEU	21	50.638	-18.181	12.883	1.00	29.79
atom	156	O	LEU	21	50.882	-19.388	12.784	1.00	26.13
atom	157	N	PRO	22	51.600	-17.237	12.889	1.00	30.54
atom	158	CD	PRO	22	51.282	-15.800	12.861	1.00	31.66
atom	159	CA	PRO	22	53.052	-17.454	12.832	1.00	32.01
atom	160	CB	PRO	22	53.629	-16.041	12.738	1.00	33.70
atom	161	CG	PRO	22	52.499	-15.210	12.205	1.00	30.75
atom	162	C	PRO	22	53.593	-18.209	14.041	1.00	35.09
atom	163	O	PRO	22	54.678	-17.897	14.540	1.00	39.45
atom	164	N	ILE	23	52.802	-19.184	14.496	1.00	33.92
atom	165	CA	ILE	23	53.081	-20.079	15.616	1.00	29.63
atom	166	CB	ILE	23	52.899	-21.539	15.135	1.00	32.30
atom	167	CG2	ILE	23	54.222	-22.295	15.156	1.00	33.90

atom	168	CG1	ILE	23	51.835	-22.229	15.979	1.00	31.35
atom	169	CD1	ILE	23	51.895	-23.740	15.884	1.00	35.04
atom	170	C	ILE	23	54.440	-19.889	16.298	1.00	32.72
atom	171	O	ILE	23	55.500	-20.012	15.682	1.00	29.52
atom	172	N	ASN	24	54.393	-19.605	17.595	1.00	37.99
atom	173	CA	ASN	24	55.606	-19.343	18.359	1.00	39.02
atom	174	CB	ASN	24	55.800	-17.845	18.534	1.00	37.86
atom	175	CG	ASN	24	57.203	-17.430	18.268	1.00	41.03
atom	176	OD1	ASN	24	58.004	-18.220	17.745	1.00	37.66
atom	177	ND2	ASN	24	57.532	-16.187	18.620	1.00	38.75
atom	178	C	ASN	24	55.628	-19.937	19.735	1.00	39.37
atom	179	O	ASN	24	54.584	-20.238	20.304	1.00	41.52
atom	180	N	ALA	25	56.838	-20.069	20.273	1.00	39.67
atom	181	CA	ALA	25	57.032	-20.577	21.622	1.00	37.68
atom	182	CB	ALA	25	58.497	-20.452	22.028	1.00	42.61
atom	183	C	ALA	25	56.180	-19.693	22.506	1.00	33.96
atom	184	O	ALA	25	55.320	-20.172	23.241	1.00	35.81
atom	185	N	LEU	26	56.426	-18.394	22.410	1.00	30.24
atom	186	CA	LEU	26	55.694	-17.405	23.185	1.00	29.54
atom	187	CB	LEU	26	56.256	-16.005	22.926	1.00	26.07
atom	188	CG	LEU	26	57.616	-15.608	23.523	1.00	25.12
atom	189	CD1	LEU	26	57.466	-14.286	24.238	1.00	26.71
atom	190	CD2	LEU	26	58.140	-16.676	24.475	1.00	25.70
atom	191	C	LEU	26	54.216	-17.412	22.854	1.00	32.07
atom	192	O	LEU	26	53.381	-17.282	23.747	1.00	39.46
atom	193	N	SER	27	53.886	-17.573	21.576	1.00	33.97
atom	194	CA	SER	27	52.490	-17.565	21.148	1.00	34.97
atom	195	CB	SER	27	52.411	-17.627	19.619	1.00	38.54
atom	196	OG	SER	27	51.508	-18.642	19.187	1.00	42.65
atom	197	C	SER	27	51.726	-18.735	21.752	1.00	36.47
atom	198	O	SER	27	50.501	-18.707	21.868	1.00	34.83
atom	199	N	ASN	28	52.460	-19.764	22.150	1.00	37.51
atom	200	CA	ASN	28	51.835	-20.944	22.713	1.00	38.99
atom	201	CB	ASN	28	52.682	-22.177	22.421	1.00	46.35
atom	202	CG	ASN	28	51.850	-23.328	21.928	1.00	51.03
atom	203	OD1	ASN	28	50.703	-23.134	21.530	1.00	53.49

	atom	204	ND2	ASN	28	52.409	-24.535	21.956	1.00	55.66
	atom	205	C	ASN	28	51.639	-20.788	24.201	1.00	37.33
	atom	206	O	ASN	28	50.889	-21.533	24.834	1.00	31.98
	atom	207	N	SER	29	52.333	-19.818	24.771	1.00	37.14
	atom	208	CA	SER	29	52.176	-19.579	26.188	1.00	35.88
	atom	209	CB	SER	29	53.123	-18.461	26.638	1.00	33.82
	atom	210	OG	SER	29	52.498	-17.580	27.564	1.00	34.09
	atom	211	C	SER	29	50.712	-19.158	26.376	1.00	33.85
	atom	212	O	SER	29	50.021	-19.629	27.282	1.00	36.33
	atom	213	N	LEU	30	50.239	-18.319	25.460	1.00	28.11
	atom	214	CA	LEU	30	48.890	-17.763	25.505	1.00	23.92
	atom	215	CB	LEU	30	48.927	-16.376	24.859	1.00	14.38
	atom	216	CG	LEU	30	47.593	-15.690	24.700	1.00	11.04
	atom	217	CD1	LEU	30	46.961	-15.499	26.069	1.00	12.59
	atom	218	CD2	LEU	30	47.795	-14.352	23.974	1.00	13.47
	atom	219	C	LEU	30	47.731	-18.557	24.900	1.00	24.67
	atom	220	O	LEU	30	46.758	-18.876	25.586	1.00	20.27
	atom	221	N	LEU	31	47.830	-18.840	23.604	1.00	25.98
	atom	222	CA	LEU	31	46.793	-19.557	22.864	1.00	26.72
	atom	223	CB	LEU	31	46.387	-18.738	21.643	1.00	28.09
	atom	224	CG	LEU	31	44.953	-18.895	21.141	1.00	31.75
	atom	225	CD1	LEU	31	44.349	-17.513	20.889	1.00	31.47
	atom	226	CD2	LEU	31	44.944	-19.712	19.870	1.00	30.70
	atom	227	C	LEU	31	47.341	-20.886	22.406	1.00	27.45
	atom	228	O	LEU	31	48.538	-21.007	22.198	1.00	37.06
	atom	229	N	ARG	32	46.485	-21.880	22.222	1.00	27.60
	atom	230	CA	ARG	32	46.963	-23.188	21.796	1.00	31.35
	atom	231	CB	ARG	32	46.750	-24.208	22.917	1.00	33.85
	atom	232	CG	ARG	32	46.668	-25.659	22.465	1.00	44.85
	atom	233	CD	ARG	32	46.596	-26.609	23.663	1.00	51.74
	atom	234	NE	ARG	32	47.614	-26.290	24.667	1.00	56.45
	atom	235	CZ	ARG	32	48.617	-27.098	25.014	1.00	59.99
	atom	236	NH1	ARG	32	48.751	-28.290	24.443	1.00	60.21
	atom	237	NH2	ARG	32	49.498	-26.711	25.932	1.00	61.46
	atom	238	C	ARG	32	46.330	-23.700	20.502	1.00	33.99
	atom	239	O	ARG	32	46.925	-24.524	19.809	1.00	38.04

	atom	240	N	HIS	33	45.139	-23.213	20.173	1.00	30.07
	atom	241	CA	HIS	33	44.442	-23.641	18.967	1.00	29.00
	atom	242	CB	HIS	33	42.953	-23.794	19.268	1.00	23.73
	atom	243	CG	HIS	33	42.637	-24.892	20.233	1.00	27.12
	atom	244	CD2	HIS	33	43.436	-25.784	20.868	1.00	25.66
	atom	245	ND1	HIS	33	41.346	-25.199	20.613	1.00	22.82
	atom	246	CE1	HIS	33	41.365	-26.233	21.434	1.00	23.60
	atom	247	NE2	HIS	33	42.621	-26.608	21.604	1.00	24.43
	atom	248	C	HIS	33	44.637	-22.637	17.821	1.00	34.47
	atom	249	O	HIS	33	43.676	-22.232	17.172	1.00	35.26
	atom	250	N	HIS	34	45.886	-22.255	17.572	1.00	37.29
	atom	251	CA	HIS	34	46.250	-21.284	16.533	1.00	40.45
	atom	252	CB	HIS	34	47.761	-21.260	16.385	1.00	43.17
	atom	253	CG	HIS	34	48.333	-22.600	16.057	1.00	48.92
	atom	254	CD2	HIS	34	48.895	-23.078	14.922	1.00	49.02
	atom	255	ND1	HIS	34	48.309	-23.654	16.945	1.00	53.07
	atom	256	CE1	HIS	34	48.830	-24.724	16.373	1.00	50.31
	atom	257	NE2	HIS	34	49.194	-24.399	15.145	1.00	53.13
	atom	258	C	HIS	34	45.649	-21.494	15.141	1.00	40.69
	atom	259	O	HIS	34	45.682	-20.591	14.310	1.00	42.64
	atom	260	N	ASN	35	45.130	-22.681	14.866	1.00	40.62
	atom	261	CA	ASN	35	44.558	-22.921	13.556	1.00	41.61
	atom	262	CB	ASN	35	44.420	-24.420	13.298	1.00	39.60
	atom	263	CG	ASN	35	45.736	-25.055	12.878	1.00	42.24
	atom	264	OD1	ASN	35	46.077	-26.152	13.323	1.00	45.01
	atom	265	ND2	ASN	35	46.488	-24.362	12.024	1.00	39.61
	atom	266	C	ASN	35	43.217	-22.224	13.382	1.00	41.88
	atom	267	O	ASN	35	42.741	-22.079	12.261	1.00	48.58
	atom	268	N	MET	36	42.617	-21.790	14.487	1.00	39.02
	atom	269	CA	MET	36	41.331	-21.085	14.466	1.00	34.47
	atom	270	CB	MET	36	40.600	-21.250	15.789	1.00	38.00
	atom	271	CG	MET	36	40.788	-22.577	16.439	1.00	38.32
	atom	272	SD	MET	36	39.272	-23.491	16.413	1.00	43.98
	atom	273	CE	MET	36	38.050	-22.269	15.969	1.00	37.20
	atom	274	C	MET	36	41.542	-19.599	14.266	1.00	33.18
	atom	275	O	MET	36	40.592	-18.848	14.059	1.00	33.83

	atom	276	N	VAL	37	42.795	-19.180	14.357	1.00	28.33
	atom	277	CA	VAL	37	43.134	-17.785	14.222	1.00	30.04
	atom	278	CB	VAL	37	44.152	-17.391	15.307	1.00	30.45
	atom	279	CG1	VAL	37	44.675	-15.980	15.061	1.00	33.10
	atom	280	CG2	VAL	37	43.487	-17.485	16.676	1.00	27.52
	atom	281	C	VAL	37	43.686	-17.529	12.834	1.00	32.08
	atom	282	O	VAL	37	44.552	-18.254	12.351	1.00	34.38
	atom	283	N	TYR	38	43.171	-16.498	12.182	1.00	33.37
	atom	284	CA	TYR	38	43.610	-16.178	10.831	1.00	32.41
	atom	285	CB	TYR	38	42.694	-16.839	9.805	1.00	31.04
	atom	286	CG	TYR	38	41.321	-16.218	9.757	1.00	28.60
	atom	287	CD1	TYR	38	41.058	-15.127	8.934	1.00	28.40
	atom	288	CE1	TYR	38	39.777	-14.582	8.838	1.00	27.52
	atom	289	CD2	TYR	38	40.272	-16.746	10.498	1.00	27.69
	atom	290	CE2	TYR	38	38.988	-16.207	10.408	1.00	26.54
	atom	291	CZ	TYR	38	38.753	-15.129	9.574	1.00	28.08
	atom	292	OH	TYR	38	37.487	-14.617	9.456	1.00	33.47
	atom	293	C	TYR	38	43.611	-14.691	10.571	1.00	30.86
	atom	294	O	TYR	38	43.168	-13.895	11.404	1.00	29.91
	atom	295	N	ALA	39	44.085	-14.331	9.384	1.00	26.58
	atom	296	CA	ALA	39	44.150	-12.939	8.993	1.00	26.36
	atom	297	CB	ALA	39	45.583	-12.441	9.077	1.00	21.23
	atom	298	C	ALA	39	43.596	-12.759	7.582	1.00	30.17
	atom	299	O	ALA	39	43.787	-13.615	6.708	1.00	29.35
	atom	300	N	THR	40	42.886	-11.651	7.384	1.00	30.81
	atom	301	CA	THR	40	42.303	-11.328	6.101	1.00	31.04
	atom	302	CB	THR	40	41.198	-10.268	6.229	1.00	30.42
	atom	303	OG1	THR	40	41.743	-9.070	6.790	1.00	29.82
	atom	304	CG2	THR	40	40.065	-10.778	7.099	1.00	20.31
	atom	305	C	THR	40	43.402	-10.782	5.201	1.00	33.39
	atom	306	O	THR	40	44.283	-10.055	5.659	1.00	36.59
	atom	307	N	THR	41	43.330	-11.144	3.923	1.00	33.19
	atom	308	CA	THR	41	44.296	-10.735	2.915	1.00	31.53
	atom	309	CB	THR	41	45.318	-11.858	2.642	1.00	34.00
	atom	310	OG1	THR	41	44.629	-13.042	2.214	1.00	33.52
	atom	311	CG2	THR	41	46.105	-12.178	3.904	1.00	37.37

atom	312	C	THR	41	43.586	-10.420	1.598	1.00	32.18
atom	313	O	THR	41	42.345	-10.474	1.518	1.00	28.34
atom	314	N	SER	42	44.395	-10.097	0.584	1.00	30.60
atom	315	CA	SER	42	43.950	-9.755	-0.776	1.00	28.87
atom	316	CB	SER	42	45.160	-9.587	-1.682	1.00	30.94
atom	317	OG	SER	42	45.386	-8.232	-1.985	1.00	41.09
atom	318	C	SER	42	43.078	-10.838	-1.386	1.00	25.21
atom	319	O	SER	42	41.975	-10.598	-1.859	1.00	21.53
atom	320	N	ARG	43	43.598	-12.049	-1.366	1.00	25.12
atom	321	CA	ARG	43	42.898	-13.187	-1.922	1.00	24.36
atom	322	CB	ARG	43	43.474	-14.464	-1.307	1.00	22.07
atom	323	CG	ARG	43	44.756	-14.920	-1.980	1.00	35.37
atom	324	CD	ARG	43	45.876	-15.237	-0.980	1.00	43.28
atom	325	NE	ARG	43	46.643	-16.436	-1.347	1.00	45.15
atom	326	CZ	ARG	43	47.970	-16.484	-1.484	1.00	47.79
atom	327	NH1	ARG	43	48.717	-15.403	-1.289	1.00	48.79
atom	328	NH2	ARG	43	48.557	-17.623	-1.826	1.00	49.62
atom	329	C	ARG	43	41.372	-13.147	-1.756	1.00	21.27
atom	330	O	ARG	43	40.642	-13.709	-2.575	1.00	21.29
atom	331	N	SER	44	40.892	-12.478	-0.707	1.00	21.05
atom	332	CA	SER	44	39.455	-12.409	-0.431	1.00	17.85
atom	333	CB	SER	44	39.181	-12.682	1.068	1.00	18.70
atom	334	OG	SER	44	39.495	-11.568	1.885	1.00	24.38
atom	335	C	SER	44	38.798	-11.105	-0.868	1.00	9.35
atom	336	O	SER	44	37.582	-11.024	-0.926	1.00	8.69
atom	337	N	ALA	45	39.612	-10.101	-1.170	1.00	6.77
atom	338	CA	ALA	45	39.136	-8.794	-1.635	1.00	12.00
atom	339	CB	ALA	45	40.271	-8.062	-2.347	1.00	10.65
atom	340	C	ALA	45	37.948	-8.906	-2.595	1.00	16.23
atom	341	O	ALA	45	37.045	-8.069	-2.600	1.00	24.10
atom	342	N	GLY	46	37.978	-9.928	-3.437	1.00	19.30
atom	343	CA	GLY	46	36.913	-10.115	-4.391	1.00	19.54
atom	344	C	GLY	46	35.587	-10.419	-3.738	1.00	20.90
atom	345	O	GLY	46	34.567	-9.860	-4.135	1.00	23.71
atom	346	N	LEU	47	35.592	-11.319	-2.755	1.00	22.91
atom	347	CA	LEU	47	34.369	-11.688	-2.058	1.00	19.97

	atom	348	CB	LEU	47	34.678	-12.655	-0.931	1.00	23.98
	atom	349	CG	LEU	47	34.891	-14.108	-1.336	1.00	27.07
	atom	350	CD1	LEU	47	36.076	-14.203	-2.281	1.00	26.74
	atom	351	CD2	LEU	47	35.114	-14.946	-0.092	1.00	23.16
	atom	352	C	LEU	47	33.739	-10.428	-1.484	1.00	22.24
	atom	353	O	LEU	47	32.527	-10.206	-1.604	1.00	25.16
	atom	354	N	ARG	48	34.577	-9.589	-0.888	1.00	17.98
	atom	355	CA	ARG	48	34.102	-8.359	-0.289	1.00	19.39
	atom	356	CB	ARG	48	35.257	-7.600	0.361	1.00	22.15
	atom	357	CG	ARG	48	34.848	-6.275	0.991	1.00	25.34
	atom	358	CD	ARG	48	33.665	-6.451	1.924	1.00	31.73
	atom	359	NE	ARG	48	33.968	-7.332	3.052	1.00	41.05
	atom	360	CZ	ARG	48	33.971	-6.954	4.332	1.00	44.95
	atom	361	NH1	ARG	48	33.684	-5.697	4.672	1.00	44.28
	atom	362	NH2	ARG	48	34.265	-7.840	5.279	1.00	45.69
	atom	363	C	ARG	48	33.426	-7.448	-1.280	1.00	18.00
	atom	364	O	ARG	48	32.389	-6.861	-0.978	1.00	13.22
	atom	365	N	GLN	49	34.033	-7.336	-2.459	1.00	19.75
	atom	366	CA	GLN	49	33.551	-6.474	-3.531	1.00	17.34
	atom	367	CB	GLN	49	34.394	-6.691	-4.778	1.00	23.31
	atom	368	CG	GLN	49	35.392	-5.599	-5.057	1.00	25.70
	atom	369	CD	GLN	49	36.457	-6.046	-6.035	1.00	32.79
	atom	370	OE1	GLN	49	36.875	-5.290	-6.915	1.00	32.01
	atom	371	NE2	GLN	49	36.903	-7.287	-5.887	1.00	35.96
	atom	372	C	GLN	49	32.097	-6.705	-3.869	1.00	20.93
	atom	373	O	GLN	49	31.370	-5.769	-4.200	1.00	25.69
	atom	374	N	LYS	50	31.658	-7.951	-3.782	1.00	20.84
	atom	375	CA	LYS	50	30.276	-8.271	-4.084	1.00	20.89
	atom	376	CB	LYS	50	30.129	-9.775	-4.339	1.00	22.67
	atom	377	CG	LYS	50	31.351	-10.432	-4.957	1.00	25.57
	atom	378	CD	LYS	50	31.347	-10.361	-6.464	1.00	28.52
	atom	379	CE	LYS	50	32.689	-9.833	-7.005	1.00	33.85
	atom	380	NZ	LYS	50	32.553	-8.461	-7.590	1.00	29.19
	atom	381	C	LYS	50	29.288	-7.848	-3.008	1.00	20.77
	atom	382	O	LYS	50	28.196	-7.349	-3.304	1.00	20.61
	atom	383	N	LYS	51	29.667	-8.052	-1.753	1.00	28.30

atom	384	CA	LYS	51	28.786	-7.733	-0.627	1.00	27.64
atom	385	CB	LYS	51	29.338	-8.347	0.666	1.00	28.63
atom	386	CG	LYS	51	29.772	-9.809	0.570	1.00	34.26
atom	387	CD	LYS	51	31.099	-10.036	1.324	1.00	39.78
atom	388	CE	LYS	51	30.917	-10.860	2.597	1.00	41.29
atom	389	NZ	LYS	51	29.487	-11.221	2.851	1.00	42.28
atom	390	C	LYS	51	28.637	-6.239	-0.440	1.00	25.06
atom	391	O	LYS	51	27.693	-5.757	0.189	1.00	26.11
atom	392	N	VAL	52	29.574	-5.505	-1.014	1.00	23.63
atom	393	CA	VAL	52	29.605	-4.063	-0.869	1.00	22.61
atom	394	CB	VAL	52	31.070	-3.649	-0.616	1.00	19.17
atom	395	CG1	VAL	52	31.729	-3.212	-1.894	1.00	17.90
atom	396	CG2	VAL	52	31.131	-2.603	0.428	1.00	24.32
atom	397	C	VAL	52	29.024	-3.279	-2.054	1.00	19.94
atom	398	O	VAL	52	28.875	-2.063	-1.995	1.00	19.73
atom	399	N	THR	53	28.671	-3.996	-3.111	1.00	20.39
atom	400	CA	THR	53	28.170	-3.397	-4.339	1.00	18.89
atom	401	CB	THR	53	28.843	-4.061	-5.557	1.00	18.51
atom	402	OG1	THR	53	30.258	-3.831	-5.506	1.00	23.13
atom	403	CG2	THR	53	28.285	-3.519	-6.855	1.00	15.71
atom	404	C	THR	53	26.672	-3.478	-4.536	1.00	21.86
atom	405	O	THR	53	26.113	-4.555	-4.677	1.00	22.43
atom	406	N	PHE	54	26.015	-2.330	-4.585	1.00	22.23
atom	407	CA	PHE	54	24.577	-2.329	-4.806	1.00	20.95
atom	408	CB	PHE	54	23.857	-2.852	-3.568	1.00	17.15
atom	409	CG	PHE	54	24.485	-2.432	-2.299	1.00	15.48
atom	410	CD1	PHE	54	24.290	-1.156	-1.804	1.00	21.00
atom	411	CD2	PHE	54	25.313	-3.299	-1.607	1.00	28.94
atom	412	CE1	PHE	54	24.914	-0.738	-0.628	1.00	24.14
atom	413	CE2	PHE	54	25.949	-2.898	-0.428	1.00	30.32
atom	414	CZ	PHE	54	25.745	-1.608	0.059	1.00	29.70
atom	415	C	PHE	54	24.134	-0.911	-5.120	1.00	21.37
atom	416	O	PHE	54	24.959	0.001	-5.171	1.00	21.13
atom	417	N	ASP	55	22.833	-0.738	-5.319	1.00	20.70
atom	418	CA	ASP	55	22.251	0.557	-5.628	1.00	20.89
atom	419	CB	ASP	55	21.155	0.361	-6.695	1.00	19.59

atom	420	CG	ASP	55	20.435	1.663	-7.079	1.00	20.07
atom	421	OD1	ASP	55	21.080	2.589	-7.622	1.00	14.28
atom	422	OD2	ASP	55	19.206	1.743	-6.835	1.00	24.20
atom	423	C	ASP	55	21.675	1.253	-4.372	1.00	23.84
atom	424	O	ASP	55	21.070	0.624	-3.493	1.00	26.41
atom	425	N	ARG	56	21.871	2.558	-4.289	1.00	17.80
atom	426	CA	ARG	56	21.344	3.297	-3.177	1.00	16.51
atom	427	CB	ARG	56	22.467	4.039	-2.436	1.00	16.87
atom	428	CG	ARG	56	23.525	3.130	-1.871	1.00	10.07
atom	429	CD	ARG	56	24.710	3.082	-2.808	1.00	15.13
atom	430	NE	ARG	56	25.652	4.167	-2.523	1.00	17.01
atom	431	CZ	ARG	56	25.953	5.128	-3.389	1.00	28.89
atom	432	NH1	ARG	56	25.388	5.152	-4.598	1.00	27.60
atom	433	NH2	ARG	56	26.838	6.053	-3.064	1.00	31.98
atom	434	C	ARG	56	20.323	4.297	-3.659	1.00	15.89
atom	435	O	ARG	56	20.638	5.136	-4.477	1.00	18.04
atom	436	N	LEU	57	19.095	4.190	-3.152	1.00	21.41
atom	437	CA	LEU	57	18.010	5.127	-3.466	1.00	19.39
atom	438	CB	LEU	57	16.760	4.398	-3.960	1.00	21.90
atom	439	CG	LEU	57	16.814	3.732	-5.333	1.00	30.04
atom	440	CD1	LEU	57	15.394	3.306	-5.717	1.00	23.84
atom	441	CD2	LEU	57	17.411	4.701	-6.382	1.00	24.33
atom	442	C	LEU	57	17.697	5.801	-2.125	1.00	22.57
atom	443	O	LEU	57	17.744	5.154	-1.063	1.00	21.40
atom	444	N	GLN	58	17.360	7.083	-2.176	1.00	20.39
atom	445	CA	GLN	58	17.082	7.850	-0.983	1.00	17.61
atom	446	CB	GLN	58	18.271	8.781	-0.695	1.00	19.01
atom	447	CG	GLN	58	19.212	8.352	0.413	1.00	18.78
atom	448	CD	GLN	58	20.304	9.377	0.649	1.00	19.26
atom	449	OE1	GLN	58	20.684	10.114	-0.265	1.00	25.14
atom	450	NE2	GLN	58	20.813	9.436	1.870	1.00	7.96
atom	451	C	GLN	58	15.836	8.717	-1.136	1.00	18.94
atom	452	O	GLN	58	15.714	9.465	-2.113	1.00	18.41
atom	453	N	VAL	59	14.928	8.631	-0.164	1.00	15.86
atom	454	CA	VAL	59	13.726	9.464	-0.143	1.00	13.64
atom	455	CB	VAL	59	12.432	8.635	-0.050	1.00	18.32

	atom	456	CG1	VAL	59	11.345	9.308	-0.842	1.00	12.43
	atom	457	CG2	VAL	59	12.665	7.228	-0.560	1.00	23.22
	atom	458	C	VAL	59	13.872	10.308	1.120	1.00	11.72
	atom	459	O	VAL	59	13.692	9.831	2.226	1.00	10.53
	atom	460	N	LEU	60	14.231	11.566	0.947	1.00	14.06
	atom	461	CA	LEU	60	14.457	12.418	2.090	1.00	14.87
	atom	462	CB	LEU	60	15.545	13.433	1.767	1.00	12.50
	atom	463	CG	LEU	60	16.894	12.787	1.394	1.00	17.55
	atom	464	CD1	LEU	60	17.892	13.910	1.096	1.00	11.66
	atom	465	CD2	LEU	60	17.414	11.848	2.527	1.00	2.00
	atom	466	C	LEU	60	13.206	13.103	2.595	1.00	18.51
	atom	467	O	LEU	60	12.423	13.669	1.825	1.00	16.16
	atom	468	N	ASP	61	13.067	13.057	3.917	1.00	18.47
	atom	469	CA	ASP	61	11.933	13.587	4.656	1.00	19.17
	atom	470	CB	ASP	61	11.621	12.612	5.784	1.00	26.43
	atom	471	CG	ASP	61	10.307	11.985	5.617	1.00	34.40
	atom	472	OD1	ASP	61	9.719	12.202	4.530	1.00	35.57
	atom	473	OD2	ASP	61	9.871	11.295	6.560	1.00	37.74
	atom	474	C	ASP	61	12.000	14.976	5.287	1.00	9.45
	atom	475	O	ASP	61	13.036	15.610	5.330	1.00	11.81
	atom	476	N	ASP	62	10.856	15.400	5.808	1.00	8.67
	atom	477	CA	ASP	62	10.717	16.659	6.541	1.00	13.85
	atom	478	CB	ASP	62	9.235	16.962	6.773	1.00	19.68
	atom	479	CG	ASP	62	8.622	17.785	5.653	1.00	24.90
	atom	480	OD1	ASP	62	9.193	18.828	5.278	1.00	29.35
	atom	481	OD2	ASP	62	7.557	17.388	5.146	1.00	36.92
	atom	482	C	ASP	62	11.430	16.417	7.901	1.00	11.46
	atom	483	O	ASP	62	12.156	17.265	8.419	1.00	14.07
	atom	484	N	HIS	63	11.220	15.234	8.459	1.00	6.43
	atom	485	CA	HIS	63	11.879	14.842	9.683	1.00	7.74
	atom	486	CB	HIS	63	11.485	13.424	10.038	1.00	8.47
	atom	487	CG	HIS	63	10.112	13.317	10.598	1.00	8.99
	atom	488	CD2	HIS	63	9.179	12.339	10.498	1.00	8.53
	atom	489	ND1	HIS	63	9.564	14.297	11.399	1.00	11.03
	atom	490	CE1	HIS	63	8.352	13.925	11.772	1.00	10.35
	atom	491	NE2	HIS	63	8.095	12.741	11.237	1.00	12.66

	atom	492	C	HIS	63	13.383	14.920	9.472	1.00	10.38
	atom	493	O	HIS	63	14.125	15.294	10.370	1.00	16.98
	atom	494	N	TYR	64	13.830	14.574	8.269	1.00	11.90
	atom	495	CA	TYR	64	15.246	14.633	7.927	1.00	7.03
	atom	496	CB	TYR	64	15.477	13.834	6.642	1.00	9.53
	atom	497	CG	TYR	64	16.891	13.867	6.083	1.00	6.78
	atom	498	CD1	TYR	64	17.815	12.885	6.415	1.00	5.13
	atom	499	CE1	TYR	64	19.105	12.925	5.916	1.00	14.54
	atom	500	CD2	TYR	64	17.294	14.884	5.250	1.00	2.00
	atom	501	CE2	TYR	64	18.555	14.937	4.749	1.00	2.00
	atom	502	CZ	TYR	64	19.475	13.966	5.077	1.00	11.69
	atom	503	OH	TYR	64	20.755	14.046	4.555	1.00	11.33
	atom	504	C	TYR	64	15.742	16.086	7.755	1.00	9.99
	atom	505	O	TYR	64	16.838	16.414	8.174	1.00	10.97
	atom	506	N	ARG	65	14.951	16.958	7.128	1.00	12.39
	atom	507	CA	ARG	65	15.390	18.341	6.923	1.00	11.20
	atom	508	CB	ARG	65	14.527	19.033	5.848	1.00	12.74
	atom	509	CG	ARG	65	14.980	18.796	4.390	1.00	17.83
	atom	510	CD	ARG	65	13.838	18.997	3.373	1.00	11.66
	atom	511	NE	ARG	65	13.515	17.724	2.745	1.00	12.38
	atom	512	CZ	ARG	65	12.293	17.229	2.669	1.00	12.36
	atom	513	NH1	ARG	65	11.272	17.904	3.181	1.00	21.59
	atom	514	NH2	ARG	65	12.090	16.048	2.107	1.00	22.71
	atom	515	C	ARG	65	15.327	19.118	8.230	1.00	10.20
	atom	516	O	ARG	65	16.164	19.973	8.494	1.00	10.28
	atom	517	N	ASP	66	14.315	18.823	9.040	1.00	11.92
	atom	518	CA	ASP	66	14.143	19.463	10.344	1.00	10.53
	atom	519	CB	ASP	66	12.920	18.882	11.050	1.00	11.57
	atom	520	CG	ASP	66	11.601	19.280	10.379	1.00	13.23
	atom	521	OD1	ASP	66	11.562	20.246	9.586	1.00	23.22
	atom	522	OD2	ASP	66	10.590	18.617	10.649	1.00	18.03
	atom	523	C	ASP	66	15.375	19.216	11.196	1.00	10.59
	atom	524	O	ASP	66	15.927	20.137	11.785	1.00	17.43
	atom	525	N	VAL	67	15.805	17.959	11.254	1.00	12.05
	atom	526	CA	VAL	67	16.975	17.582	12.024	1.00	14.16
	atom	527	CB	VAL	67	17.135	16.050	12.080	1.00	14.68

	atom	528	CG1	VAL	67	18.492	15.683	12.680	1.00	12.91
	atom	529	CG2	VAL	67	16.019	15.452	12.901	1.00	15.06
	atom	530	C	VAL	67	18.231	18.196	11.439	1.00	16.75
	atom	531	O	VAL	67	19.103	18.650	12.168	1.00	20.85
	atom	532	N	LEU	68	18.331	18.205	10.117	1.00	19.38
	atom	533	CA	LEU	68	19.493	18.788	9.469	1.00	17.25
	atom	534	CB	LEU	68	19.348	18.689	7.962	1.00	16.80
	atom	535	CG	LEU	68	20.566	18.561	7.064	1.00	13.39
	atom	536	CD1	LEU	68	20.257	19.311	5.814	1.00	11.90
	atom	537	CD2	LEU	68	21.824	19.079	7.713	1.00	12.32
	atom	538	C	LEU	68	19.613	20.246	9.855	1.00	18.34
	atom	539	O	LEU	68	20.681	20.691	10.259	1.00	18.28
	atom	540	N	LYS	69	18.513	20.991	9.722	1.00	18.88
	atom	541	CA	LYS	69	18.519	22.421	10.050	1.00	21.95
	atom	542	CB	LYS	69	17.152	23.064	9.750	1.00	19.48
	atom	543	CG	LYS	69	17.056	24.548	10.085	1.00	27.21
	atom	544	CD	LYS	69	17.951	25.421	9.167	1.00	38.86
	atom	545	CE	LYS	69	18.436	26.718	9.847	1.00	41.07
	atom	546	NZ	LYS	69	19.792	26.593	10.505	1.00	38.52
	atom	547	C	LYS	69	18.909	22.668	11.512	1.00	21.81
	atom	548	O	LYS	69	19.668	23.597	11.806	1.00	20.33
	atom	549	N	GLU	70	18.394	21.852	12.428	1.00	19.09
	atom	550	CA	GLU	70	18.749	22.029	13.832	1.00	15.47
	atom	551	CB	GLU	70	17.995	21.016	14.715	1.00	17.65
	atom	552	CG	GLU	70	16.613	21.489	15.235	1.00	10.96
	atom	553	CD	GLU	70	15.720	20.320	15.683	1.00	17.00
	atom	554	OE1	GLU	70	14.488	20.351	15.464	1.00	16.61
	atom	555	OE2	GLU	70	16.254	19.354	16.259	1.00	20.20
	atom	556	C	GLU	70	20.275	21.840	13.950	1.00	14.28
	atom	557	O	GLU	70	20.964	22.612	14.629	1.00	11.43
	atom	558	N	MET	71	20.806	20.842	13.248	1.00	11.88
	atom	559	CA	MET	71	22.244	20.563	13.289	1.00	14.32
	atom	560	CB	MET	71	22.584	19.235	12.588	1.00	14.16
	atom	561	CG	MET	71	22.224	17.968	13.368	1.00	9.37
	atom	562	SD	MET	71	22.245	16.550	12.260	1.00	15.49
	atom	563	CE	MET	71	23.964	16.104	12.333	1.00	8.73

atom	564	C	MET	71	23.075	21.669	12.657	1.00	15.37
atom	565	O	MET	71	24.211	21.893	13.049	1.00	21.07
atom	566	N	LYS	72	22.530	22.361	11.669	1.00	19.18
atom	567	CA	LYS	72	23.305	23.431	11.037	1.00	22.11
atom	568	CB	LYS	72	22.665	23.842	9.696	1.00	17.90
atom	569	CG	LYS	72	22.668	22.698	8.663	1.00	24.56
atom	570	CD	LYS	72	22.275	23.141	7.254	1.00	20.71
atom	571	CE	LYS	72	22.862	22.187	6.219	1.00	28.30
atom	572	NZ	LYS	72	22.248	22.346	4.857	1.00	23.88
atom	573	C	LYS	72	23.380	24.619	12.001	1.00	22.65
atom	574	O	LYS	72	24.397	25.302	12.108	1.00	21.19
atom	575	N	ALA	73	22.302	24.835	12.739	1.00	19.95
atom	576	CA	ALA	73	22.279	25.940	13.667	1.00	22.76
atom	577	CB	ALA	73	20.881	26.080	14.257	1.00	17.61
atom	578	C	ALA	73	23.327	25.765	14.770	1.00	25.80
atom	579	O	ALA	73	23.894	26.740	15.250	1.00	27.15
atom	580	N	LYS	74	23.584	24.524	15.174	1.00	28.16
atom	581	CA	LYS	74	24.567	24.286	16.216	1.00	25.53
atom	582	CB	LYS	74	24.415	22.877	16.808	1.00	26.08
atom	583	CG	LYS	74	23.611	22.800	18.116	1.00	29.43
atom	584	CD	LYS	74	24.208	23.672	19.232	1.00	31.87
atom	585	CE	LYS	74	24.525	22.850	20.490	1.00	36.37
atom	586	NZ	LYS	74	23.999	23.451	21.763	1.00	37.56
atom	587	C	LYS	74	25.948	24.434	15.599	1.00	27.65
atom	588	O	LYS	74	26.835	25.098	16.164	1.00	28.65
atom	589	N	ALA	75	26.127	23.827	14.428	1.00	22.91
atom	590	CA	ALA	75	27.414	23.873	13.754	1.00	20.17
atom	591	CB	ALA	75	27.379	23.020	12.538	1.00	21.44
atom	592	C	ALA	75	27.834	25.276	13.371	1.00	21.91
atom	593	O	ALA	75	29.024	25.569	13.279	1.00	22.39
atom	594	N	SER	76	26.847	26.133	13.144	1.00	24.75
atom	595	CA	SER	76	27.095	27.505	12.751	1.00	26.04
atom	596	CB	SER	76	25.829	28.114	12.164	1.00	27.50
atom	597	OG	SER	76	25.166	28.921	13.119	1.00	27.03
atom	598	C	SER	76	27.534	28.277	13.975	1.00	29.40
atom	599	O	SER	76	27.652	29.502	13.950	1.00	30.52

	atom	600	N	THR	77	27.796	27.534	15.041	1.00	29.85
	atom	601	CA	THR	77	28.225	28.105	16.304	1.00	29.93
	atom	602	CB	THR	77	27.400	27.476	17.436	1.00	28.64
	atom	603	OG1	THR	77	26.580	28.490	18.021	1.00	28.24
	atom	604	CG2	THR	77	28.276	26.812	18.471	1.00	22.34
	atom	605	C	THR	77	29.718	27.836	16.486	1.00	29.10
	atom	606	O	THR	77	30.334	28.257	17.462	1.00	23.31
	atom	607	N	VAL	78	30.292	27.159	15.500	1.00	28.73
	atom	608	CA	VAL	78	31.698	26.785	15.522	1.00	28.31
	atom	609	CB	VAL	78	31.869	25.319	15.059	1.00	22.98
	atom	610	CG1	VAL	78	33.326	24.954	14.999	1.00	24.21
	atom	611	CG2	VAL	78	31.130	24.389	16.008	1.00	27.29
	atom	612	C	VAL	78	32.623	27.664	14.682	1.00	30.31
	atom	613	O	VAL	78	32.320	28.012	13.547	1.00	31.32
	atom	614	N	LYS	79	33.742	28.053	15.276	1.00	32.75
	atom	615	CA	LYS	79	34.746	28.820	14.567	1.00	34.72
	atom	616	CB	LYS	79	35.109	30.116	15.296	1.00	33.13
	atom	617	CG	LYS	79	36.261	30.890	14.628	1.00	35.72
	atom	618	CD	LYS	79	36.018	32.411	14.590	1.00	35.69
	atom	619	CE	LYS	79	37.339	33.186	14.505	1.00	33.64
	atom	620	NZ	LYS	79	37.140	34.666	14.643	1.00	29.37
	atom	621	C	LYS	79	35.933	27.862	14.567	1.00	34.91
	atom	622	O	LYS	79	36.405	27.444	15.617	1.00	39.77
	atom	623	N	ALA	80	36.367	27.466	13.383	1.00	32.01
	atom	624	CA	ALA	80	37.488	26.564	13.247	1.00	31.60
	atom	625	CB	ALA	80	37.036	25.260	12.609	1.00	33.03
	atom	626	C	ALA	80	38.512	27.270	12.370	1.00	31.62
	atom	627	O	ALA	80	38.201	28.228	11.672	1.00	30.86
	atom	628	N	LYS	81	39.745	26.810	12.403	1.00	32.87
	atom	629	CA	LYS	81	40.744	27.473	11.605	1.00	39.04
	atom	630	CB	LYS	81	41.551	28.417	12.508	1.00	44.98
	atom	631	CG	LYS	81	40.696	29.521	13.164	1.00	48.22
	atom	632	CD	LYS	81	41.090	30.929	12.696	1.00	53.93
	atom	633	CE	LYS	81	39.866	31.788	12.344	1.00	60.46
	atom	634	NZ	LYS	81	40.061	33.259	12.607	1.00	55.43
	atom	635	C	LYS	81	41.637	26.476	10.884	1.00	36.02

	atom	636	O	LYS	81	41.836	25.363	11.348	1.00	36.54
	atom	637	N	LEU	82	42.157	26.871	9.732	1.00	38.69
	atom	638	CA	LEU	82	43.019	25.977	8.971	1.00	41.74
	atom	639	CB	LEU	82	43.277	26.530	7.571	1.00	38.50
	atom	640	CG	LEU	82	43.827	27.943	7.506	1.00	42.05
	atom	641	CD1	LEU	82	45.345	27.892	7.518	1.00	43.62
	atom	642	CD2	LEU	82	43.318	28.622	6.236	1.00	44.00
	atom	643	C	LEU	82	44.320	25.815	9.713	1.00	40.84
	atom	644	O	LEU	82	44.833	26.772	10.275	1.00	45.86
	atom	645	N	LEU	83	44.846	24.600	9.725	1.00	42.05
	atom	646	CA	LEU	83	46.093	24.318	10.412	1.00	42.03
	atom	647	CB	LEU	83	46.077	22.891	10.955	1.00	45.18
	atom	648	CG	LEU	83	45.682	22.763	12.428	1.00	44.22
	atom	649	CD1	LEU	83	44.252	23.218	12.603	1.00	40.69
	atom	650	CD2	LEU	83	45.866	21.324	12.894	1.00	48.10
	atom	651	C	LEU	83	47.296	24.492	9.503	1.00	42.56
	atom	652	O	LEU	83	47.434	23.788	8.500	1.00	45.28
	atom	653	N	SER	84	48.173	25.423	9.862	1.00	41.78
	atom	654	CA	SER	84	49.377	25.676	9.076	1.00	43.36
	atom	655	CB	SER	84	50.366	26.533	9.858	1.00	41.89
	atom	656	OG	SER	84	51.163	25.696	10.675	1.00	46.93
	atom	657	C	SER	84	50.049	24.355	8.742	1.00	43.47
	atom	658	O	SER	84	49.926	23.387	9.487	1.00	45.37
	atom	659	N	VAL	85	50.757	24.329	7.615	1.00	42.65
	atom	660	CA	VAL	85	51.465	23.139	7.159	1.00	40.02
	atom	661	CB	VAL	85	52.556	23.492	6.143	1.00	40.79
	atom	662	CG1	VAL	85	52.603	22.432	5.039	1.00	31.56
	atom	663	CG2	VAL	85	52.326	24.898	5.623	1.00	37.48
	atom	664	C	VAL	85	52.158	22.399	8.283	1.00	38.35
	atom	665	O	VAL	85	51.895	21.223	8.515	1.00	35.15
	atom	666	N	GLU	86	53.068	23.105	8.945	1.00	41.71
	atom	667	CA	GLU	86	53.849	22.565	10.053	1.00	46.68
	atom	668	CB	GLU	86	54.530	23.718	10.804	1.00	49.13
	atom	669	CG	GLU	86	55.543	23.273	11.850	1.00	53.84
	atom	670	CD	GLU	86	56.202	24.449	12.557	1.00	57.61
	atom	671	OE1	GLU	86	56.415	25.499	11.906	1.00	57.48

	atom	672	OE2	GLU	86	56.509	24.322	13.763	1.00	55.26
	atom	673	C	GLU	86	53.003	21.730	11.024	1.00	45.28
	atom	674	O	GLU	86	53.314	20.558	11.286	1.00	45.42
	atom	675	N	GLU	87	51.938	22.336	11.550	1.00	41.57
	atom	676	CA	GLU	87	51.050	21.648	12.480	1.00	40.92
	atom	677	CB	GLU	87	49.897	22.558	12.911	1.00	43.41
	atom	678	CG	GLU	87	50.218	24.031	13.033	1.00	43.17
	atom	679	CD	GLU	87	49.103	24.781	13.736	1.00	48.23
	atom	680	OE1	GLU	87	48.904	24.535	14.947	1.00	51.88
	atom	681	OE2	GLU	87	48.418	25.605	13.085	1.00	45.74
	atom	682	C	GLU	87	50.462	20.413	11.815	1.00	40.01
	atom	683	O	GLU	87	50.352	19.343	12.424	1.00	41.18
	atom	684	N	ALA	88	50.069	20.582	10.557	1.00	37.93
	atom	685	CA	ALA	88	49.484	19.509	9.787	1.00	32.05
	atom	686	CB	ALA	88	49.147	20.011	8.399	1.00	38.95
	atom	687	C	ALA	88	50.455	18.345	9.719	1.00	30.85
	atom	688	O	ALA	88	50.087	17.202	10.001	1.00	30.25
	atom	689	N	CYS	89	51.700	18.637	9.353	1.00	33.20
	atom	690	CA	CYS	89	52.734	17.598	9.253	1.00	35.92
	atom	691	CB	CYS	89	54.068	18.195	8.781	1.00	37.45
	atom	692	SG	CYS	89	54.037	19.133	7.232	1.00	39.47
	atom	693	C	CYS	89	52.935	16.940	10.618	1.00	34.78
	atom	694	O	CYS	89	53.176	15.735	10.710	1.00	28.20
	atom	695	N	LYS	90	52.832	17.752	11.670	1.00	36.61
	atom	696	CA	LYS	90	52.989	17.281	13.042	1.00	35.73
	atom	697	CB	LYS	90	52.757	18.446	14.004	1.00	40.25
	atom	698	CG	LYS	90	53.894	19.470	14.056	1.00	39.78
	atom	699	CD	LYS	90	53.742	20.377	15.285	1.00	40.47
	atom	700	CE	LYS	90	53.888	21.857	14.931	1.00	40.65
	atom	701	NZ	LYS	90	54.520	22.655	16.026	1.00	37.75
	atom	702	C	LYS	90	52.009	16.141	13.349	1.00	34.09
	atom	703	O	LYS	90	52.411	15.076	13.823	1.00	33.58
	atom	704	N	LEU	91	50.727	16.361	13.067	1.00	30.64
	atom	705	CA	LEU	91	49.706	15.336	13.317	1.00	31.32
	atom	706	CB	LEU	91	48.299	15.909	13.041	1.00	29.65
	atom	707	CG	LEU	91	47.937	17.261	13.661	1.00	29.77

	atom	708	CD1	LEU	91	46.491	17.609	13.371	1.00	27.02
	atom	709	CD2	LEU	91	48.149	17.208	15.150	1.00	28.96
	atom	710	C	LEU	91	49.894	14.045	12.495	1.00	29.18
	atom	711	O	LEU	91	49.156	13.060	12.669	1.00	24.10
	atom	712	N	THR	92	50.889	14.031	11.616	1.00	28.58
	atom	713	CA	THR	92	51.079	12.858	10.777	1.00	28.44
	atom	714	CB	THR	92	51.677	13.241	9.420	1.00	28.48
	atom	715	OG1	THR	92	50.954	14.357	8.884	1.00	22.03
	atom	716	CG2	THR	92	51.604	12.057	8.458	1.00	18.87
	atom	717	C	THR	92	51.904	11.743	11.397	1.00	30.83
	atom	718	O	THR	92	53.055	11.937	11.790	1.00	27.27
	atom	719	N	PRO	93	51.315	10.541	11.470	1.00	30.23
	atom	720	CD	PRO	93	49.962	10.222	10.983	1.00	26.81
	atom	721	CA	PRO	93	51.984	9.382	12.047	1.00	31.46
	atom	722	CB	PRO	93	50.877	8.338	12.157	1.00	27.95
	atom	723	CG	PRO	93	49.875	8.737	11.148	1.00	27.44
	atom	724	C	PRO	93	53.137	8.920	11.195	1.00	38.55
	atom	725	O	PRO	93	53.051	8.926	9.968	1.00	42.88
	atom	726	N	PRO	94	54.247	8.526	11.839	1.00	44.22
	atom	727	CD	PRO	94	54.416	8.532	13.302	1.00	42.29
	atom	728	CA	PRO	94	55.455	8.046	11.158	1.00	45.63
	atom	729	CB	PRO	94	56.553	8.167	12.220	1.00	44.07
	atom	730	CG	PRO	94	55.882	8.755	13.454	1.00	41.67
	atom	731	C	PRO	94	55.256	6.610	10.710	1.00	50.09
	atom	732	O	PRO	94	56.194	5.814	10.691	1.00	54.82
	atom	733	N	HIS	95	54.017	6.286	10.364	1.00	53.67
	atom	734	CA	HIS	95	53.654	4.946	9.913	1.00	57.80
	atom	735	CB	HIS	95	52.855	4.220	11.006	1.00	63.80
	atom	736	CG	HIS	95	53.629	3.970	12.260	1.00	69.07
	atom	737	CD2	HIS	95	53.856	4.756	13.340	1.00	72.38
	atom	738	ND1	HIS	95	54.292	2.785	12.501	1.00	71.73
	atom	739	CE1	HIS	95	54.895	2.851	13.675	1.00	73.76
	atom	740	NE2	HIS	95	54.647	4.036	14.205	1.00	75.05
	atom	741	C	HIS	95	52.799	5.030	8.645	1.00	55.40
	atom	742	O	HIS	95	52.527	4.016	7.999	1.00	55.81
	atom	743	N	SER	96	52.372	6.244	8.305	1.00	53.91

atom	744	CA	SER	96	51.531	6.472	7.133	1.00	52.92
atom	745	CB	SER	96	51.193	7.963	7.003	1.00	50.23
atom	746	OG	SER	96	49.841	8.210	7.345	1.00	52.35
atom	747	C	SER	96	52.163	5.979	5.835	1.00	51.06
atom	748	O	SER	96	53.388	5.939	5.698	1.00	49.44
atom	749	N	ALA	97	51.307	5.593	4.890	1.00	49.46
atom	750	CA	ALA	97	51.756	5.121	3.591	1.00	45.65
atom	751	CB	ALA	97	50.561	4.674	2.764	1.00	44.44
atom	752	C	ALA	97	52.468	6.294	2.925	1.00	42.76
atom	753	O	ALA	97	51.954	7.416	2.924	1.00	40.92
atom	754	N	LYS	98	53.649	6.043	2.370	1.00	41.52
atom	755	CA	LYS	98	54.407	7.113	1.740	1.00	42.05
atom	756	CB	LYS	98	55.803	6.637	1.325	1.00	45.33
atom	757	CG	LYS	98	55.893	5.176	0.910	1.00	52.15
atom	758	CD	LYS	98	57.225	4.882	0.200	1.00	55.56
atom	759	CE	LYS	98	57.951	3.666	0.803	1.00	60.84
atom	760	NZ	LYS	98	59.091	4.017	1.720	1.00	57.80
atom	761	C	LYS	98	53.682	7.669	0.540	1.00	40.45
atom	762	O	LYS	98	52.762	7.048	0.009	1.00	38.78
atom	763	N	SER	99	54.094	8.860	0.131	1.00	39.53
atom	764	CA	SER	99	53.502	9.535	-1.019	1.00	38.92
atom	765	CB	SER	99	53.896	11.017	-1.007	1.00	37.52
atom	766	OG	SER	99	53.532	11.664	-2.210	1.00	39.62
atom	767	C	SER	99	54.015	8.874	-2.290	1.00	38.92
atom	768	O	SER	99	55.129	8.339	-2.320	1.00	37.85
atom	769	N	LYS	100	53.199	8.895	-3.335	1.00	38.61
atom	770	CA	LYS	100	53.610	8.314	-4.603	1.00	38.93
atom	771	CB	LYS	100	52.384	7.997	-5.472	1.00	39.20
atom	772	CG	LYS	100	51.381	7.066	-4.797	1.00	41.56
atom	773	CD	LYS	100	50.672	6.138	-5.782	1.00	42.55
atom	774	CE	LYS	100	49.883	6.929	-6.824	1.00	46.92
atom	775	NZ	LYS	100	48.395	6.748	-6.711	1.00	45.76
atom	776	C	LYS	100	54.470	9.372	-5.272	1.00	36.95
atom	777	O	LYS	100	54.808	9.277	-6.444	1.00	41.42
atom	778	N	PHE	101	54.825	10.388	-4.503	1.00	36.94
atom	779	CA	PHE	101	55.625	11.482	-5.018	1.00	36.82

atom	780	CB	PHE	101	54.877	12.805	-4.833	1.00	38.05
atom	781	CG	PHE	101	53.559	12.877	-5.566	1.00	41.28
atom	782	CD1	PHE	101	52.392	12.400	-4.977	1.00	43.57
atom	783	CD2	PHE	101	53.480	13.455	-6.827	1.00	44.60
atom	784	CE1	PHE	101	51.164	12.499	-5.630	1.00	41.45
atom	785	CE2	PHE	101	52.254	13.560	-7.489	1.00	46.72
atom	786	CZ	PHE	101	51.095	13.079	-6.883	1.00	43.73
atom	787	C	PHE	101	57.015	11.600	-4.397	1.00	35.89
atom	788	O	PHE	101	57.520	12.708	-4.234	1.00	36.78
atom	789	N	GLY	102	57.625	10.479	-4.029	1.00	32.70
atom	790	CA	GLY	102	58.973	10.550	-3.491	1.00	37.31
atom	791	C	GLY	102	59.210	10.698	-1.998	1.00	40.11
atom	792	O	GLY	102	60.090	10.035	-1.452	1.00	43.81
atom	793	N	TYR	103	58.446	11.559	-1.334	1.00	39.26
atom	794	CA	TYR	103	58.609	11.784	0.096	1.00	35.00
atom	795	CB	TYR	103	58.399	13.270	0.409	1.00	38.56
atom	796	CG	TYR	103	56.984	13.746	0.170	1.00	43.82
atom	797	CD1	TYR	103	56.087	13.896	1.231	1.00	44.08
atom	798	CE1	TYR	103	54.774	14.281	1.009	1.00	39.21
atom	799	CD2	TYR	103	56.522	14.003	-1.123	1.00	41.55
atom	800	CE2	TYR	103	55.208	14.389	-1.350	1.00	38.72
atom	801	CZ	TYR	103	54.343	14.518	-0.281	1.00	39.56
atom	802	OH	TYR	103	53.031	14.835	-0.515	1.00	37.93
atom	803	C	TYR	103	57.665	10.942	0.951	1.00	32.59
atom	804	O	TYR	103	56.492	10.797	0.632	1.00	29.69
atom	805	N	GLY	104	58.191	10.408	2.052	1.00	32.00
atom	806	CA	GLY	104	57.394	9.589	2.952	1.00	25.84
atom	807	C	GLY	104	56.983	10.318	4.223	1.00	25.38
atom	808	O	GLY	104	57.114	11.548	4.312	1.00	24.18
atom	809	N	ALA	105	56.508	9.550	5.209	1.00	24.20
atom	810	CA	ALA	105	56.037	10.080	6.494	1.00	23.76
atom	811	CB	ALA	105	55.611	8.922	7.407	1.00	26.92
atom	812	C	ALA	105	57.011	10.984	7.234	1.00	24.90
atom	813	O	ALA	105	56.660	12.095	7.592	1.00	25.76
atom	814	N	LYS	106	58.233	10.516	7.461	1.00	30.07
atom	815	CA	LYS	106	59.236	11.306	8.177	1.00	33.58

atom	816	CB	LYS	106	60.552	10.538	8.272	1.00	35.25
atom	817	CG	LYS	106	60.434	9.081	8.660	1.00	37.37
atom	818	CD	LYS	106	61.755	8.348	8.415	1.00	39.21
atom	819	CE	LYS	106	62.944	9.043	9.098	1.00	42.05
atom	820	NZ	LYS	106	63.712	9.962	8.187	1.00	45.24
atom	821	C	LYS	106	59.510	12.683	7.554	1.00	38.58
atom	822	O	LYS	106	59.422	13.715	8.236	1.00	41.15
atom	823	N	ASP	107	59.853	12.704	6.268	1.00	38.63
atom	824	CA	ASP	107	60.118	13.969	5.594	1.00	38.65
atom	825	CB	ASP	107	60.298	13.752	4.096	1.00	40.04
atom	826	CG	ASP	107	61.279	12.671	3.798	1.00	40.25
atom	827	OD1	ASP	107	60.843	11.515	3.609	1.00	44.96
atom	828	OD2	ASP	107	62.486	12.982	3.772	1.00	40.23
atom	829	C	ASP	107	58.950	14.903	5.832	1.00	38.71
atom	830	O	ASP	107	59.133	16.118	5.913	1.00	40.03
atom	831	N	VAL	108	57.754	14.323	5.938	1.00	38.49
atom	832	CA	VAL	108	56.544	15.093	6.190	1.00	39.25
atom	833	CB	VAL	108	55.254	14.240	6.177	1.00	38.78
atom	834	CG1	VAL	108	54.088	15.088	6.680	1.00	36.21
atom	835	CG2	VAL	108	54.968	13.715	4.776	1.00	38.69
atom	836	C	VAL	108	56.639	15.698	7.570	1.00	40.88
atom	837	O	VAL	108	56.140	16.798	7.798	1.00	42.42
atom	838	N	ARG	109	57.259	14.982	8.501	1.00	39.54
atom	839	CA	ARG	109	57.375	15.533	9.839	1.00	44.71
atom	840	CB	ARG	109	57.485	14.429	10.897	1.00	44.04
atom	841	CG	ARG	109	57.175	14.978	12.297	1.00	46.40
atom	842	CD	ARG	109	57.340	13.959	13.411	1.00	46.18
atom	843	NE	ARG	109	56.074	13.345	13.797	1.00	40.34
atom	844	CZ	ARG	109	55.647	12.189	13.307	1.00	43.34
atom	845	NH1	ARG	109	56.390	11.536	12.418	1.00	44.24
atom	846	NH2	ARG	109	54.488	11.682	13.701	1.00	39.95
atom	847	C	ARG	109	58.557	16.492	9.979	1.00	44.27
atom	848	O	ARG	109	58.488	17.464	10.733	1.00	45.55
atom	849	N	ASN	110	59.628	16.237	9.235	1.00	42.68
atom	850	CA	ASN	110	60.813	17.080	9.318	1.00	41.58
atom	851	CB	ASN	110	62.028	16.327	8.776	1.00	42.25

atom	852	CG	ASN	110	62.223	14.976	9.444	1.00	43.61
atom	853	OD1	ASN	110	61.431	14.562	10.297	1.00	43.54
atom	854	ND2	ASN	110	63.282	14.277	9.055	1.00	49.56
atom	855	C	ASN	110	60.675	18.411	8.594	1.00	40.58
atom	856	O	ASN	110	61.528	19.289	8.737	1.00	40.24
atom	857	N	LEU	111	59.600	18.560	7.828	1.00	39.98
atom	858	CA	LEU	111	59.350	19.787	7.061	1.00	40.96
atom	859	CB	LEU	111	59.470	21.027	7.981	1.00	43.73
atom	860	CG	LEU	111	58.245	21.493	8.806	1.00	44.77
atom	861	CD1	LEU	111	58.270	23.014	8.942	1.00	43.32
atom	862	CD2	LEU	111	56.932	21.055	8.136	1.00	43.76
atom	863	C	LEU	111	60.313	19.903	5.861	1.00	36.53
atom	864	O	LEU	111	60.836	20.974	5.581	1.00	33.61
atom	865	N	SER	112	60.521	18.784	5.161	1.00	37.08
atom	866	CA	SER	112	61.408	18.702	3.993	1.00	37.95
atom	867	CB	SER	112	61.636	17.239	3.620	1.00	35.33
atom	868	OG	SER	112	61.881	16.443	4.772	1.00	40.02
atom	869	C	SER	112	60.896	19.451	2.758	1.00	42.04
atom	870	O	SER	112	59.685	19.503	2.507	1.00	43.96
atom	871	N	SER	113	61.821	20.017	1.979	1.00	42.58
atom	872	CA	SER	113	61.442	20.762	0.777	1.00	42.22
atom	873	CB	SER	113	62.692	21.302	0.038	1.00	39.75
atom	874	OG	SER	113	63.534	20.272	-0.463	1.00	37.28
atom	875	C	SER	113	60.580	19.920	-0.174	1.00	41.06
atom	876	O	SER	113	59.622	20.429	-0.761	1.00	36.23
atom	877	N	LYS	114	60.899	18.636	-0.320	1.00	37.37
atom	878	CA	LYS	114	60.102	17.811	-1.219	1.00	37.95
atom	879	CB	LYS	114	60.759	16.434	-1.449	1.00	39.06
atom	880	CG	LYS	114	61.015	15.611	-0.194	1.00	43.80
atom	881	CD	LYS	114	62.256	14.721	-0.361	1.00	44.68
atom	882	CE	LYS	114	61.916	13.233	-0.326	1.00	45.40
atom	883	NZ	LYS	114	61.253	12.772	-1.592	1.00	45.38
atom	884	C	LYS	114	58.708	17.650	-0.630	1.00	33.14
atom	885	O	LYS	114	57.705	17.668	-1.348	1.00	29.12
atom	886	N	ALA	115	58.645	17.515	0.688	1.00	30.70
atom	887	CA	ALA	115	57.363	17.346	1.351	1.00	27.33

atom	888	CB	ALA	115	57.576	16.838	2.757	1.00	29.72
atom	889	C	ALA	115	56.540	18.623	1.370	1.00	25.15
atom	890	O	ALA	115	55.506	18.710	0.720	1.00	25.23
atom	891	N	VAL	116	56.997	19.633	2.091	1.00	25.45
atom	892	CA	VAL	116	56.208	20.850	2.160	1.00	29.58
atom	893	CB	VAL	116	56.807	21.875	3.170	1.00	31.94
atom	894	CG1	VAL	116	57.757	21.178	4.135	1.00	30.62
atom	895	CG2	VAL	116	57.486	23.011	2.432	1.00	32.05
atom	896	C	VAL	116	55.982	21.526	0.814	1.00	30.56
atom	897	O	VAL	116	55.136	22.424	0.691	1.00	31.18
atom	898	N	ASN	117	56.741	21.107	-0.197	1.00	34.10
atom	899	CA	ASN	117	56.585	21.673	-1.534	1.00	28.81
atom	900	CB	ASN	117	57.845	21.486	-2.352	1.00	30.56
atom	901	CG	ASN	117	58.738	22.691	-2.281	1.00	34.70
atom	902	OD1	ASN	117	58.260	23.812	-2.089	1.00	33.31
atom	903	ND2	ASN	117	60.044	22.477	-2.421	1.00	34.40
atom	904	C	ASN	117	55.416	20.997	-2.214	1.00	30.73
atom	905	O	ASN	117	54.545	21.674	-2.774	1.00	32.39
atom	906	N	HIS	118	55.383	19.665	-2.168	1.00	28.42
atom	907	CA	HIS	118	54.260	18.959	-2.757	1.00	29.70
atom	908	CB	HIS	118	54.415	17.447	-2.645	1.00	30.32
atom	909	CG	HIS	118	53.374	16.692	-3.412	1.00	33.54
atom	910	CD2	HIS	118	53.242	16.450	-4.740	1.00	35.37
atom	911	ND1	HIS	118	52.283	16.106	-2.809	1.00	36.29
atom	912	CE1	HIS	118	51.524	15.536	-3.729	1.00	34.25
atom	913	NE2	HIS	118	52.083	15.732	-4.910	1.00	34.76
atom	914	C	HIS	118	52.985	19.387	-2.032	1.00	29.99
atom	915	O	HIS	118	51.999	19.755	-2.677	1.00	29.65
atom	916	N	ILE	119	53.007	19.358	-0.696	1.00	27.46
atom	917	CA	ILE	119	51.830	19.758	0.078	1.00	24.42
atom	918	CB	ILE	119	52.118	19.945	1.620	1.00	24.65
atom	919	CG2	ILE	119	50.793	20.085	2.361	1.00	20.54
atom	920	CG1	ILE	119	52.950	18.796	2.211	1.00	17.58
atom	921	CD1	ILE	119	52.759	17.472	1.551	1.00	15.70
atom	922	C	ILE	119	51.294	21.100	-0.437	1.00	25.51
atom	923	O	ILE	119	50.091	21.243	-0.673	1.00	29.09

atom	924	N	HIS	120	52.178	22.079	-0.617	1.00	23.27
atom	925	CA	HIS	120	51.754	23.406	-1.080	1.00	28.30
atom	926	CB	HIS	120	52.927	24.401	-1.069	1.00	30.07
atom	927	CG	HIS	120	53.039	25.200	0.197	1.00	33.49
atom	928	CD2	HIS	120	52.237	26.162	0.719	1.00	35.05
atom	929	ND1	HIS	120	54.108	25.086	1.063	1.00	30.46
atom	930	CE1	HIS	120	53.961	25.944	2.057	1.00	34.16
atom	931	NE2	HIS	120	52.834	26.610	1.872	1.00	30.63
atom	932	C	HIS	120	51.190	23.321	-2.483	1.00	27.89
atom	933	O	HIS	120	50.467	24.209	-2.934	1.00	28.53
atom	934	N	SER	121	51.524	22.236	-3.163	1.00	27.55
atom	935	CA	SER	121	51.071	22.030	-4.517	1.00	28.43
atom	936	CB	SER	121	52.001	21.055	-5.219	1.00	29.05
atom	937	OG	SER	121	51.649	19.736	-4.876	1.00	39.03
atom	938	C	SER	121	49.642	21.512	-4.531	1.00	29.23
atom	939	O	SER	121	48.781	22.064	-5.234	1.00	27.16
atom	940	N	VAL	122	49.397	20.448	-3.765	1.00	24.86
atom	941	CA	VAL	122	48.061	19.871	-3.671	1.00	19.27
atom	942	CB	VAL	122	47.981	18.827	-2.557	1.00	18.10
atom	943	CG1	VAL	122	46.710	18.056	-2.670	1.00	19.73
atom	944	CG2	VAL	122	49.175	17.901	-2.612	1.00	14.09
atom	945	C	VAL	122	47.122	21.014	-3.306	1.00	24.73
atom	946	O	VAL	122	46.080	21.214	-3.937	1.00	29.01
atom	947	N	TRP	123	47.518	21.778	-2.294	1.00	24.11
atom	948	CA	TRP	123	46.736	22.905	-1.817	1.00	23.68
atom	949	CB	TRP	123	47.474	23.584	-0.658	1.00	21.51
atom	950	CG	TRP	123	46.631	24.562	0.083	1.00	24.63
atom	951	CD2	TRP	123	45.661	24.270	1.100	1.00	24.83
atom	952	CE2	TRP	123	45.100	25.507	1.512	1.00	26.60
atom	953	CE3	TRP	123	45.205	23.086	1.703	1.00	21.62
atom	954	CD1	TRP	123	46.620	25.922	-0.076	1.00	25.58
atom	955	NE1	TRP	123	45.705	26.497	0.779	1.00	26.32
atom	956	CZ2	TRP	123	44.103	25.589	2.505	1.00	23.81
atom	957	CZ3	TRP	123	44.208	23.173	2.697	1.00	17.40
atom	958	CH2	TRP	123	43.674	24.411	3.080	1.00	19.50
atom	959	C	TRP	123	46.437	23.932	-2.908	1.00	27.15

	atom	960	O	TRP	123	45.278	24.340	-3.116	1.00	26.13
	atom	961	N	LYS	124	47.489	24.368	-3.592	1.00	27.03
	atom	962	CA	LYS	124	47.331	25.343	-4.652	1.00	27.60
	atom	963	CB	LYS	124	48.684	25.610	-5.310	1.00	33.72
	atom	964	CG	LYS	124	49.053	27.077	-5.428	1.00	40.99
	atom	965	CD	LYS	124	49.540	27.423	-6.833	1.00	41.84
	atom	966	CE	LYS	124	48.672	28.500	-7.485	1.00	47.34
	atom	967	NZ	LYS	124	47.546	28.970	-6.607	1.00	50.55
	atom	968	C	LYS	124	46.347	24.749	-5.669	1.00	30.14
	atom	969	O	LYS	124	45.470	25.442	-6.194	1.00	32.78
	atom	970	N	ASP	125	46.490	23.454	-5.928	1.00	24.17
	atom	971	CA	ASP	125	45.624	22.772	-6.865	1.00	26.07
	atom	972	CB	ASP	125	46.210	21.410	-7.197	1.00	28.24
	atom	973	CG	ASP	125	45.393	20.679	-8.211	1.00	30.03
	atom	974	OD1	ASP	125	44.765	19.662	-7.849	1.00	31.48
	atom	975	OD2	ASP	125	45.375	21.131	-9.373	1.00	34.25
	atom	976	C	ASP	125	44.198	22.602	-6.332	1.00	27.25
	atom	977	O	ASP	125	43.231	22.810	-7.057	1.00	23.54
	atom	978	N	LEU	126	44.078	22.214	-5.061	1.00	29.03
	atom	979	CA	LEU	126	42.777	22.032	-4.417	1.00	26.92
	atom	980	CB	LEU	126	42.953	21.695	-2.932	1.00	31.95
	atom	981	CG	LEU	126	42.677	20.298	-2.347	1.00	31.46
	atom	982	CD1	LEU	126	42.691	19.259	-3.428	1.00	31.01
	atom	983	CD2	LEU	126	43.732	19.964	-1.291	1.00	27.21
	atom	984	C	LEU	126	42.000	23.325	-4.544	1.00	28.21
	atom	985	O	LEU	126	40.787	23.314	-4.721	1.00	31.19
	atom	986	N	LEU	127	42.695	24.453	-4.450	1.00	32.51
	atom	987	CA	LEU	127	42.021	25.749	-4.582	1.00	33.82
	atom	988	CB	LEU	127	42.862	26.874	-3.959	1.00	33.73
	atom	989	CG	LEU	127	42.570	27.333	-2.520	1.00	32.63
	atom	990	CD1	LEU	127	43.875	27.614	-1.812	1.00	32.67
	atom	991	CD2	LEU	127	41.709	28.582	-2.521	1.00	32.52
	atom	992	C	LEU	127	41.747	26.071	-6.051	1.00	34.67
	atom	993	O	LEU	127	40.684	26.581	-6.389	1.00	35.01
	atom	994	N	GLU	128	42.697	25.750	-6.925	1.00	37.52
	atom	995	CA	GLU	128	42.554	26.037	-8.357	1.00	42.22

atom	996	CB	GLU	128	43.903	25.864	-9.064	1.00	44.81
atom	997	CG	GLU	128	44.962	26.886	-8.659	1.00	48.63
atom	998	CD	GLU	128	46.323	26.622	-9.300	1.00	49.49
atom	999	OE1	GLU	128	46.840	25.485	-9.203	1.00	41.93
atom	1000	OE2	GLU	128	46.878	27.566	-9.904	1.00	55.45
atom	1001	C	GLU	128	41.507	25.192	-9.090	1.00	43.41
atom	1002	O	GLU	128	40.710	25.717	-9.882	1.00	43.52
atom	1003	N	ASP	129	41.517	23.886	-8.829	1.00	41.66
atom	1004	CA	ASP	129	40.594	22.958	-9.477	1.00	40.83
atom	1005	CB	ASP	129	41.415	21.847	-10.155	1.00	36.59
atom	1006	CG	ASP	129	40.556	20.706	-10.689	1.00	37.69
atom	1007	OD1	ASP	129	41.134	19.702	-11.161	1.00	33.70
atom	1008	OD2	ASP	129	39.315	20.808	-10.635	1.00	33.52
atom	1009	C	ASP	129	39.590	22.371	-8.475	1.00	42.15
atom	1010	O	ASP	129	39.976	21.865	-7.417	1.00	46.87
atom	1011	N	THR	130	38.304	22.433	-8.811	1.00	37.86
atom	1012	CA	THR	130	37.261	21.914	-7.930	1.00	34.06
atom	1013	CB	THR	130	36.360	23.037	-7.449	1.00	33.25
atom	1014	OG1	THR	130	37.053	24.282	-7.581	1.00	40.23
atom	1015	CG2	THR	130	35.996	22.816	-5.998	1.00	40.96
atom	1016	C	THR	130	36.367	20.840	-8.543	1.00	28.72
atom	1017	O	THR	130	35.238	20.625	-8.092	1.00	26.45
atom	1018	N	VAL	131	36.869	20.158	-9.560	1.00	24.00
atom	1019	CA	VAL	131	36.084	19.127	-10.212	1.00	22.33
atom	1020	CB	VAL	131	35.417	19.654	-11.529	1.00	22.42
atom	1021	CG1	VAL	131	34.437	20.761	-11.221	1.00	16.48
atom	1022	CG2	VAL	131	36.482	20.152	-12.502	1.00	20.73
atom	1023	C	VAL	131	36.869	17.876	-10.575	1.00	23.48
atom	1024	O	VAL	131	36.292	16.799	-10.689	1.00	29.07
atom	1025	N	THR	132	38.174	17.981	-10.748	1.00	21.43
atom	1026	CA	THR	132	38.876	16.783	-11.167	1.00	26.51
atom	1027	CB	THR	132	40.326	17.069	-11.656	1.00	28.03
atom	1028	OG1	THR	132	40.295	18.039	-12.706	1.00	29.16
atom	1029	CG2	THR	132	40.979	15.776	-12.191	1.00	20.81
atom	1030	C	THR	132	38.944	15.695	-10.121	1.00	25.49
atom	1031	O	THR	132	39.544	15.864	-9.075	1.00	21.33

atom	1032	N	PRO	133	38.324	14.547	-10.401	1.00	24.92
atom	1033	CD	PRO	133	37.538	14.190	-11.591	1.00	24.51
atom	1034	CA	PRO	133	38.373	13.459	-9.424	1.00	24.23
atom	1035	CB	PRO	133	37.913	12.255	-10.222	1.00	20.97
atom	1036	CG	PRO	133	36.987	12.831	-11.232	1.00	23.00
atom	1037	C	PRO	133	39.803	13.290	-8.921	1.00	23.05
atom	1038	O	PRO	133	40.754	13.507	-9.666	1.00	18.59
atom	1039	N	ILE	134	39.971	12.950	-7.647	1.00	21.63
atom	1040	CA	ILE	134	41.324	12.746	-7.172	1.00	18.39
atom	1041	CB	ILE	134	41.639	13.507	-5.916	1.00	16.31
atom	1042	CG2	ILE	134	43.124	13.434	-5.668	1.00	19.82
atom	1043	CG1	ILE	134	41.243	14.972	-6.097	1.00	19.78
atom	1044	CD1	ILE	134	41.493	15.852	-4.891	1.00	25.49
atom	1045	C	ILE	134	41.535	11.287	-6.945	1.00	18.04
atom	1046	O	ILE	134	40.664	10.588	-6.434	1.00	20.16
atom	1047	N	ASP	135	42.700	10.814	-7.361	1.00	20.29
atom	1048	CA	ASP	135	43.002	9.406	-7.226	1.00	18.18
atom	1049	CB	ASP	135	44.367	9.106	-7.848	1.00	14.84
atom	1050	CG	ASP	135	44.607	7.619	-8.020	1.00	20.47
atom	1051	OD1	ASP	135	45.680	7.130	-7.608	1.00	22.89
atom	1052	OD2	ASP	135	43.718	6.931	-8.567	1.00	22.60
atom	1053	C	ASP	135	42.981	8.934	-5.768	1.00	19.45
atom	1054	O	ASP	135	43.234	9.704	-4.825	1.00	12.97
atom	1055	N	THR	136	42.650	7.663	-5.604	1.00	17.34
atom	1056	CA	THR	136	42.660	7.030	-4.304	1.00	18.09
atom	1057	CB	THR	136	41.245	6.860	-3.722	1.00	15.30
atom	1058	OG1	THR	136	40.495	5.971	-4.551	1.00	8.12
atom	1059	CG2	THR	136	40.532	8.200	-3.614	1.00	14.26
atom	1060	C	THR	136	43.253	5.644	-4.580	1.00	23.39
atom	1061	O	THR	136	43.281	5.183	-5.731	1.00	21.41
atom	1062	N	THR	137	43.752	4.995	-3.533	1.00	21.68
atom	1063	CA	THR	137	44.305	3.665	-3.669	1.00	21.26
atom	1064	CB	THR	137	45.685	3.564	-3.016	1.00	26.31
atom	1065	OG1	THR	137	46.610	4.402	-3.726	1.00	28.90
atom	1066	CG2	THR	137	46.163	2.103	-3.014	1.00	16.36
atom	1067	C	THR	137	43.340	2.775	-2.922	1.00	24.37

atom	1068	O	THR	137	42.654	3.238	-2.014	1.00	28.21
atom	1069	N	ILE	138	43.268	1.507	-3.289	1.00	24.64
atom	1070	CA	ILE	138	42.360	0.601	-2.603	1.00	25.62
atom	1071	CB	ILE	138	41.184	0.248	-3.527	1.00	25.74
atom	1072	CG2	ILE	138	41.709	-0.457	-4.785	1.00	30.99
atom	1073	CG1	ILE	138	40.196	-0.663	-2.806	1.00	24.67
atom	1074	CD1	ILE	138	39.051	-1.123	-3.679	1.00	17.63
atom	1075	C	ILE	138	43.112	-0.675	-2.211	1.00	28.00
atom	1076	O	ILE	138	43.899	-1.196	-2.997	1.00	28.97
atom	1077	N	MET	139	42.881	-1.174	-0.998	1.00	30.48
atom	1078	CA	MET	139	43.550	-2.398	-0.537	1.00	26.65
atom	1079	CB	MET	139	44.801	-2.089	0.293	1.00	27.97
atom	1080	CG	MET	139	45.626	-0.917	-0.152	1.00	29.19
atom	1081	SD	MET	139	47.011	-1.427	-1.169	1.00	34.62
atom	1082	CE	MET	139	47.603	-2.919	-0.310	1.00	32.02
atom	1083	C	MET	139	42.668	-3.273	0.328	1.00	26.27
atom	1084	O	MET	139	41.647	-2.834	0.852	1.00	26.36
atom	1085	N	ALA	140	43.094	-4.520	0.480	1.00	26.30
atom	1086	CA	ALA	140	42.408	-5.484	1.319	1.00	29.53
atom	1087	CB	ALA	140	42.590	-6.870	0.763	1.00	34.69
atom	1088	C	ALA	140	43.087	-5.374	2.677	1.00	33.12
atom	1089	O	ALA	140	44.294	-5.593	2.779	1.00	34.39
atom	1090	N	LYS	141	42.331	-5.018	3.716	1.00	35.05
atom	1091	CA	LYS	141	42.923	-4.883	5.045	1.00	32.82
atom	1092	CB	LYS	141	41.940	-4.202	6.011	1.00	34.61
atom	1093	CG	LYS	141	42.343	-2.775	6.410	1.00	36.26
atom	1094	CD	LYS	141	41.601	-2.310	7.678	1.00	46.84
atom	1095	CE	LYS	141	41.236	-0.805	7.655	1.00	47.24
atom	1096	NZ	LYS	141	42.184	0.072	8.439	1.00	40.93
atom	1097	C	LYS	141	43.345	-6.242	5.589	1.00	29.67
atom	1098	O	LYS	141	42.719	-7.260	5.303	1.00	29.80
atom	1099	N	ASN	142	44.425	-6.256	6.360	1.00	31.23
atom	1100	CA	ASN	142	44.923	-7.496	6.949	1.00	30.24
atom	1101	CB	ASN	142	46.396	-7.706	6.591	1.00	33.52
atom	1102	CG	ASN	142	46.609	-8.065	5.126	1.00	34.71
atom	1103	OD1	ASN	142	47.347	-8.991	4.817	1.00	38.81

atom	1104	ND2	ASN	142	45.977	-7.330	4.225	1.00	37.08
atom	1105	C	ASN	142	44.796	-7.412	8.470	1.00	29.20
atom	1106	O	ASN	142	45.648	-6.803	9.126	1.00	29.53
atom	1107	N	GLU	143	43.734	-7.990	9.031	1.00	23.30
atom	1108	CA	GLU	143	43.556	-7.979	10.483	1.00	21.14
atom	1109	CB	GLU	143	42.520	-6.945	10.924	1.00	17.55
atom	1110	CG	GLU	143	41.199	-7.006	10.249	1.00	17.18
atom	1111	CD	GLU	143	40.522	-5.652	10.216	1.00	23.57
atom	1112	OE1	GLU	143	41.225	-4.620	10.318	1.00	27.69
atom	1113	OE2	GLU	143	39.284	-5.607	10.087	1.00	30.88
atom	1114	C	GLU	143	43.142	-9.368	10.890	1.00	17.20
atom	1115	O	GLU	143	42.574	-10.093	10.097	1.00	18.93
atom	1116	N	VAL	144	43.418	-9.760	12.121	1.00	17.94
atom	1117	CA	VAL	144	43.092	-11.126	12.486	1.00	20.65
atom	1118	CB	VAL	144	44.297	-11.807	13.201	1.00	20.49
atom	1119	CG1	VAL	144	45.518	-10.910	13.115	1.00	16.50
atom	1120	CG2	VAL	144	43.962	-12.141	14.635	1.00	18.24
atom	1121	C	VAL	144	41.812	-11.342	13.263	1.00	20.00
atom	1122	O	VAL	144	41.355	-10.476	13.985	1.00	24.75
atom	1123	N	PHE	145	41.250	-12.528	13.078	1.00	19.07
atom	1124	CA	PHE	145	40.002	-12.946	13.694	1.00	16.80
atom	1125	CB	PHE	145	38.850	-12.777	12.687	1.00	12.26
atom	1126	CG	PHE	145	38.573	-11.358	12.318	1.00	15.43
atom	1127	CD1	PHE	145	38.838	-10.891	11.022	1.00	16.74
atom	1128	CD2	PHE	145	38.076	-10.470	13.261	1.00	12.81
atom	1129	CE1	PHE	145	38.614	-9.551	10.673	1.00	10.56
atom	1130	CE2	PHE	145	37.848	-9.117	12.924	1.00	14.36
atom	1131	CZ	PHE	145	38.120	-8.662	11.624	1.00	12.18
atom	1132	C	PHE	145	40.091	-14.421	14.082	1.00	16.98
atom	1133	O	PHE	145	41.146	-15.058	13.975	1.00	19.51
atom	1134	N	CYS	146	38.960	-14.959	14.513	1.00	15.55
atom	1135	CA	CYS	146	38.861	-16.353	14.886	1.00	19.61
atom	1136	CB	CYS	146	38.352	-16.479	16.325	1.00	20.46
atom	1137	SG	CYS	146	38.349	-18.152	16.978	1.00	29.33
atom	1138	C	CYS	146	37.826	-16.887	13.918	1.00	22.54
atom	1139	O	CYS	146	36.852	-16.197	13.631	1.00	24.05

	atom	1140	N	VAL	147	38.025	-18.096	13.408	1.00	27.04
	atom	1141	CA	VAL	147	37.070	-18.648	12.462	1.00	38.78
	atom	1142	CB	VAL	147	37.428	-20.088	12.078	1.00	40.45
	atom	1143	CG1	VAL	147	38.929	-20.190	11.844	1.00	37.73
	atom	1144	CG2	VAL	147	36.962	-21.050	13.167	1.00	40.03
	atom	1145	C	VAL	147	35.668	-18.609	13.046	1.00	42.25
	atom	1146	O	VAL	147	35.485	-18.844	14.239	1.00	43.36
	atom	1147	N	GLN	148	34.695	-18.293	12.192	1.00	52.45
	atom	1148	CA	GLN	148	33.294	-18.181	12.585	1.00	58.94
	atom	1149	CB	GLN	148	32.375	-18.223	11.360	1.00	62.76
	atom	1150	CG	GLN	148	31.141	-17.310	11.473	1.00	69.47
	atom	1151	CD	GLN	148	30.518	-16.967	10.120	1.00	72.76
	atom	1152	OE1	GLN	148	30.620	-15.834	9.644	1.00	72.30
	atom	1153	NE2	GLN	148	29.866	-17.949	9.499	1.00	73.42
	atom	1154	C	GLN	148	32.922	-19.294	13.537	1.00	61.80
	atom	1155	O	GLN	148	33.311	-20.447	13.338	1.00	61.76
	atom	1156	N	PRO	149	32.157	-18.956	14.591	1.00	63.58
	atom	1157	CD	PRO	149	31.641	-17.602	14.865	1.00	63.75
	atom	1158	CA	PRO	149	31.717	-19.920	15.606	1.00	64.07
	atom	1159	CB	PRO	149	30.373	-19.359	16.072	1.00	64.66
	atom	1160	CG	PRO	149	30.410	-17.863	15.711	1.00	65.09
	atom	1161	C	PRO	149	31.577	-21.294	14.983	1.00	64.02
	atom	1162	O	PRO	149	32.248	-22.251	15.381	1.00	60.51
	atom	1163	N	GLU	150	30.702	-21.356	13.983	1.00	64.24
	atom	1164	CA	GLU	150	30.440	-22.576	13.243	1.00	65.65
	atom	1165	CB	GLU	150	29.245	-22.375	12.308	1.00	64.12
	atom	1166	CG	GLU	150	28.904	-20.909	12.036	1.00	65.02
	atom	1167	CD	GLU	150	27.507	-20.534	12.510	1.00	65.10
	atom	1168	OE1	GLU	150	26.913	-21.330	13.273	1.00	61.66
	atom	1169	OE2	GLU	150	27.007	-19.449	12.123	1.00	62.67
	atom	1170	C	GLU	150	31.688	-22.911	12.430	1.00	67.55
	atom	1171	O	GLU	150	32.228	-22.046	11.726	1.00	68.49
	atom	1172	N	LYS	151	32.146	-24.159	12.543	1.00	66.38
	atom	1173	CA	LYS	151	33.328	-24.620	11.818	1.00	63.34
	atom	1174	CB	LYS	151	33.522	-26.135	12.006	1.00	62.68
	atom	1175	CG	LYS	151	34.936	-26.532	12.446	1.00	61.87

atom	1176	CD	LYS	151	35.330	-27.903	11.918	1.00	62.09
atom	1177	CE	LYS	151	36.406	-27.813	10.847	1.00	59.59
atom	1178	NZ	LYS	151	36.715	-29.162	10.279	1.00	57.99
atom	1179	C	LYS	151	33.213	-24.282	10.330	1.00	60.40
atom	1180	O	LYS	151	32.533	-24.966	9.559	1.00	59.04
atom	1181	N	GLY	152	33.889	-23.208	9.943	1.00	57.56
atom	1182	CA	GLY	152	33.862	-22.772	8.565	1.00	51.32
atom	1183	C	GLY	152	33.977	-21.269	8.492	1.00	45.79
atom	1184	O	GLY	152	35.070	-20.725	8.638	1.00	45.11
atom	1185	N	GLY	153	32.841	-20.611	8.280	1.00	42.64
atom	1186	CA	GLY	153	32.798	-19.163	8.173	1.00	40.81
atom	1187	C	GLY	153	34.094	-18.404	8.402	1.00	38.58
atom	1188	O	GLY	153	34.712	-18.507	9.461	1.00	38.72
atom	1189	N	ARG	154	34.499	-17.632	7.399	1.00	35.69
atom	1190	CA	ARG	154	35.709	-16.820	7.472	1.00	33.89
atom	1191	CB	ARG	154	36.839	-17.486	6.677	1.00	37.54
atom	1192	CG	ARG	154	38.090	-17.857	7.489	1.00	34.13
atom	1193	CD	ARG	154	39.211	-18.305	6.554	1.00	32.60
atom	1194	NE	ARG	154	40.342	-18.930	7.236	1.00	28.80
atom	1195	CZ	ARG	154	40.262	-20.030	7.974	1.00	28.75
atom	1196	NH1	ARG	154	39.091	-20.644	8.138	1.00	25.45
atom	1197	NH2	ARG	154	41.365	-20.523	8.532	1.00	22.79
atom	1198	C	ARG	154	35.349	-15.472	6.853	1.00	32.85
atom	1199	O	ARG	154	34.777	-15.417	5.765	1.00	36.37
atom	1200	N	LYS	155	35.666	-14.386	7.539	1.00	27.50
atom	1201	CA	LYS	155	35.334	-13.073	7.026	1.00	28.54
atom	1202	CB	LYS	155	35.253	-12.071	8.178	1.00	31.26
atom	1203	CG	LYS	155	33.956	-12.101	8.960	1.00	40.17
atom	1204	CD	LYS	155	34.057	-12.968	10.230	1.00	43.63
atom	1205	CE	LYS	155	33.901	-12.123	11.498	1.00	43.66
atom	1206	NZ	LYS	155	34.164	-10.671	11.242	1.00	44.91
atom	1207	C	LYS	155	36.328	-12.560	5.984	1.00	32.85
atom	1208	O	LYS	155	37.554	-12.615	6.177	1.00	33.24
atom	1209	N	PRO	156	35.816	-12.093	4.839	1.00	29.41
atom	1210	CD	PRO	156	34.400	-12.109	4.434	1.00	31.41
atom	1211	CA	PRO	156	36.694	-11.569	3.794	1.00	26.76

atom	1212	CB	PRO	156	35.775	-11.421	2.582	1.00	32.64
atom	1213	CG	PRO	156	34.395	-11.332	3.151	1.00	33.94
atom	1214	C	PRO	156	37.264	-10.228	4.222	1.00	21.47
atom	1215	O	PRO	156	36.611	-9.493	4.941	1.00	15.73
atom	1216	N	ALA	157	38.465	-9.908	3.752	1.00	19.11
atom	1217	CA	ALA	157	39.114	-8.658	4.095	1.00	23.05
atom	1218	CB	ALA	157	40.338	-8.452	3.232	1.00	20.61
atom	1219	C	ALA	157	38.213	-7.442	3.988	1.00	27.93
atom	1220	O	ALA	157	37.155	-7.481	3.380	1.00	31.73
atom	1221	N	ARG	158	38.661	-6.359	4.608	1.00	31.17
atom	1222	CA	ARG	158	37.966	-5.090	4.596	1.00	30.61
atom	1223	CB	ARG	158	38.108	-4.402	5.953	1.00	39.25
atom	1224	CG	ARG	158	36.921	-4.522	6.895	1.00	46.67
atom	1225	CD	ARG	158	36.243	-3.165	7.074	1.00	56.19
atom	1226	NE	ARG	158	36.734	-2.328	8.184	1.00	62.33
atom	1227	CZ	ARG	158	37.968	-2.314	8.699	1.00	65.03
atom	1228	NH1	ARG	158	38.921	-3.111	8.238	1.00	62.19
atom	1229	NH2	ARG	158	38.252	-1.462	9.683	1.00	66.14
atom	1230	C	ARG	158	38.729	-4.291	3.555	1.00	30.37
atom	1231	O	ARG	158	39.953	-4.405	3.468	1.00	30.08
atom	1232	N	LEU	159	38.033	-3.478	2.771	1.00	28.48
atom	1233	CA	LEU	159	38.720	-2.704	1.758	1.00	26.77
atom	1234	CB	LEU	159	37.950	-2.748	0.440	1.00	25.42
atom	1235	CG	LEU	159	37.459	-4.091	-0.085	1.00	28.81
atom	1236	CD1	LEU	159	37.558	-4.057	-1.589	1.00	26.63
atom	1237	CD2	LEU	159	38.260	-5.249	0.496	1.00	25.80
atom	1238	C	LEU	159	38.895	-1.259	2.160	1.00	25.74
atom	1239	O	LEU	159	37.904	-0.526	2.245	1.00	28.64
atom	1240	N	ILE	160	40.132	-0.839	2.419	1.00	22.24
atom	1241	CA	ILE	160	40.351	0.559	2.759	1.00	19.95
atom	1242	CB	ILE	160	41.538	0.755	3.759	1.00	24.51
atom	1243	CG2	ILE	160	42.848	0.394	3.120	1.00	24.22
atom	1244	CG1	ILE	160	41.594	2.222	4.228	1.00	33.48
atom	1245	CD1	ILE	160	41.084	2.491	5.672	1.00	30.14
atom	1246	C	ILE	160	40.566	1.354	1.465	1.00	20.39
atom	1247	O	ILE	160	40.938	0.813	0.417	1.00	23.89

atom	1248	N	VAL	161	40.270	2.640	1.530	1.00	20.34
atom	1249	CA	VAL	161	40.392	3.513	0.384	1.00	13.51
atom	1250	CB	VAL	161	39.002	3.776	-0.226	1.00	17.37
atom	1251	CG1	VAL	161	39.122	4.782	-1.383	1.00	15.61
atom	1252	CG2	VAL	161	38.377	2.453	-0.686	1.00	11.77
atom	1253	C	VAL	161	40.958	4.821	0.903	1.00	16.32
atom	1254	O	VAL	161	40.330	5.469	1.725	1.00	13.98
atom	1255	N	PHE	162	42.135	5.215	0.432	1.00	18.09
atom	1256	CA	PHE	162	42.738	6.456	0.913	1.00	19.73
atom	1257	CB	PHE	162	43.746	6.135	2.000	1.00	19.06
atom	1258	CG	PHE	162	44.793	5.155	1.569	1.00	23.11
atom	1259	CD1	PHE	162	46.062	5.595	1.188	1.00	24.58
atom	1260	CD2	PHE	162	44.524	3.792	1.557	1.00	19.16
atom	1261	CE1	PHE	162	47.036	4.691	0.813	1.00	19.74
atom	1262	CE2	PHE	162	45.498	2.878	1.182	1.00	18.01
atom	1263	CZ	PHE	162	46.759	3.330	0.810	1.00	18.62
atom	1264	C	PHE	162	43.450	7.247	-0.177	1.00	18.75
atom	1265	O	PHE	162	44.021	6.665	-1.092	1.00	13.27
atom	1266	N	PRO	163	43.438	8.591	-0.072	1.00	19.79
atom	1267	CD	PRO	163	42.825	9.385	1.011	1.00	20.08
atom	1268	CA	PRO	163	44.099	9.451	-1.062	1.00	18.01
atom	1269	CB	PRO	163	43.549	10.845	-0.754	1.00	14.92
atom	1270	CG	PRO	163	43.317	10.820	0.718	1.00	13.92
atom	1271	C	PRO	163	45.617	9.368	-0.851	1.00	22.20
atom	1272	O	PRO	163	46.119	8.424	-0.228	1.00	24.81
atom	1273	N	ASP	164	46.344	10.352	-1.364	1.00	22.65
atom	1274	CA	ASP	164	47.798	10.363	-1.231	1.00	22.44
atom	1275	CB	ASP	164	48.437	10.919	-2.528	1.00	21.02
atom	1276	CG	ASP	164	49.979	10.885	-2.515	1.00	25.45
atom	1277	OD1	ASP	164	50.596	11.960	-2.340	1.00	26.87
atom	1278	OD2	ASP	164	50.578	9.796	-2.698	1.00	23.16
atom	1279	C	ASP	164	48.189	11.214	-0.020	1.00	21.82
atom	1280	O	ASP	164	47.461	12.134	0.369	1.00	11.22
atom	1281	N	LEU	165	49.339	10.878	0.561	1.00	23.17
atom	1282	CA	LEU	165	49.901	11.567	1.714	1.00	24.29
atom	1283	CB	LEU	165	51.404	11.245	1.797	1.00	27.89

atom	1284	CG	LEU	165	52.245	11.796	2.960	1.00	27.55
atom	1285	CD1	LEU	165	51.470	11.627	4.263	1.00	29.58
atom	1286	CD2	LEU	165	53.579	11.080	3.035	1.00	23.53
atom	1287	C	LEU	165	49.700	13.085	1.641	1.00	27.92
atom	1288	O	LEU	165	49.280	13.739	2.618	1.00	26.93
atom	1289	N	GLY	166	50.015	13.650	0.484	1.00	25.18
atom	1290	CA	GLY	166	49.863	15.083	0.324	1.00	24.97
atom	1291	C	GLY	166	48.428	15.546	0.471	1.00	22.31
atom	1292	O	GLY	166	48.161	16.659	0.938	1.00	23.62
atom	1293	N	VAL	167	47.495	14.710	0.043	1.00	18.72
atom	1294	CA	VAL	167	46.099	15.076	0.183	1.00	22.92
atom	1295	CB	VAL	167	45.155	14.096	-0.579	1.00	23.81
atom	1296	CG1	VAL	167	43.712	14.344	-0.172	1.00	17.63
atom	1297	CG2	VAL	167	45.303	14.306	-2.082	1.00	17.07
atom	1298	C	VAL	167	45.834	15.030	1.679	1.00	20.19
atom	1299	O	VAL	167	45.316	15.988	2.251	1.00	25.41
atom	1300	N	ARG	168	46.226	13.926	2.306	1.00	17.47
atom	1301	CA	ARG	168	46.071	13.747	3.748	1.00	20.66
atom	1302	CB	ARG	168	46.768	12.442	4.184	1.00	12.74
atom	1303	CG	ARG	168	45.786	11.303	4.520	1.00	14.91
atom	1304	CD	ARG	168	46.288	9.924	4.153	1.00	5.34
atom	1305	NE	ARG	168	47.737	9.836	4.279	1.00	20.08
atom	1306	CZ	ARG	168	48.510	8.981	3.616	1.00	19.67
atom	1307	NH1	ARG	168	49.826	8.993	3.812	1.00	21.17
atom	1308	NH2	ARG	168	47.974	8.112	2.771	1.00	12.86
atom	1309	C	ARG	168	46.599	14.957	4.564	1.00	21.32
atom	1310	O	ARG	168	45.901	15.482	5.429	1.00	25.92
atom	1311	N	VAL	169	47.814	15.417	4.297	1.00	20.48
atom	1312	CA	VAL	169	48.307	16.562	5.048	1.00	20.77
atom	1313	CB	VAL	169	49.737	17.006	4.587	1.00	17.98
atom	1314	CG1	VAL	169	50.085	18.381	5.158	1.00	16.60
atom	1315	CG2	VAL	169	50.753	15.998	5.043	1.00	18.11
atom	1316	C	VAL	169	47.335	17.708	4.813	1.00	21.18
atom	1317	O	VAL	169	47.006	18.459	5.732	1.00	24.32
atom	1318	N	CYS	170	46.865	17.843	3.578	1.00	25.10
atom	1319	CA	CYS	170	45.930	18.919	3.249	1.00	24.67

atom	1320	CB	CYS	170	45.744	19.002	1.730	1.00	27.71
atom	1321	SG	CYS	170	47.076	19.909	0.869	1.00	27.54
atom	1322	C	CYS	170	44.584	18.731	3.955	1.00	22.25
atom	1323	O	CYS	170	43.966	19.705	4.416	1.00	21.66
atom	1324	N	GLU	171	44.137	17.481	4.057	1.00	18.43
atom	1325	CA	GLU	171	42.875	17.216	4.736	1.00	18.04
atom	1326	CB	GLU	171	42.587	15.699	4.835	1.00	8.34
atom	1327	CG	GLU	171	42.052	15.108	3.509	1.00	2.27
atom	1328	CD	GLU	171	41.409	13.717	3.626	1.00	8.05
atom	1329	OE1	GLU	171	42.129	12.702	3.652	1.00	5.15
atom	1330	OE2	GLU	171	40.166	13.633	3.672	1.00	9.40
atom	1331	C	GLU	171	43.049	17.836	6.106	1.00	19.14
atom	1332	O	GLU	171	42.212	18.637	6.532	1.00	14.20
atom	1333	N	LYS	172	44.170	17.514	6.764	1.00	18.46
atom	1334	CA	LYS	172	44.446	18.034	8.107	1.00	16.81
atom	1335	CB	LYS	172	45.820	17.586	8.604	1.00	18.96
atom	1336	CG	LYS	172	45.843	16.234	9.300	1.00	17.24
atom	1337	CD	LYS	172	46.653	15.237	8.517	1.00	17.70
atom	1338	CE	LYS	172	47.112	14.111	9.391	1.00	20.07
atom	1339	NZ	LYS	172	46.802	12.772	8.798	1.00	21.38
atom	1340	C	LYS	172	44.391	19.550	8.146	1.00	17.84
atom	1341	O	LYS	172	43.719	20.131	8.989	1.00	19.49
atom	1342	N	MET	173	45.094	20.200	7.236	1.00	18.73
atom	1343	CA	MET	173	45.092	21.649	7.252	1.00	25.13
atom	1344	CB	MET	173	45.825	22.200	6.025	1.00	24.15
atom	1345	CG	MET	173	47.353	22.055	6.141	1.00	32.87
atom	1346	SD	MET	173	48.276	22.321	4.610	1.00	32.61
atom	1347	CE	MET	173	48.568	24.104	4.677	1.00	29.59
atom	1348	C	MET	173	43.682	22.218	7.330	1.00	26.29
atom	1349	O	MET	173	43.358	22.984	8.239	1.00	25.83
atom	1350	N	ALA	174	42.826	21.814	6.404	1.00	25.93
atom	1351	CA	ALA	174	41.475	22.348	6.378	1.00	22.87
atom	1352	CB	ALA	174	41.007	22.419	4.946	1.00	28.71
atom	1353	C	ALA	174	40.400	21.648	7.208	1.00	23.81
atom	1354	O	ALA	174	39.341	22.212	7.426	1.00	28.91
atom	1355	N	LEU	175	40.637	20.447	7.699	1.00	20.65

atom	1356	CA	LEU	175	39.548	19.799	8.398	1.00	20.65
atom	1357	CB	LEU	175	39.014	18.672	7.509	1.00	16.61
atom	1358	CG	LEU	175	38.022	19.194	6.474	1.00	18.52
atom	1359	CD1	LEU	175	37.617	18.080	5.514	1.00	25.09
atom	1360	CD2	LEU	175	36.826	19.748	7.185	1.00	12.35
atom	1361	C	LEU	175	39.764	19.279	9.809	1.00	21.36
atom	1362	O	LEU	175	38.785	19.044	10.536	1.00	21.56
atom	1363	N	TYR	176	41.024	19.106	10.199	1.00	21.79
atom	1364	CA	TYR	176	41.330	18.590	11.521	1.00	24.37
atom	1365	CB	TYR	176	42.823	18.702	11.801	1.00	27.38
atom	1366	CG	TYR	176	43.200	18.138	13.149	1.00	26.58
atom	1367	CD1	TYR	176	43.467	16.780	13.304	1.00	18.36
atom	1368	CE1	TYR	176	43.778	16.245	14.541	1.00	15.60
atom	1369	CD2	TYR	176	43.255	18.959	14.276	1.00	22.63
atom	1370	CE2	TYR	176	43.563	18.438	15.520	1.00	22.17
atom	1371	CZ	TYR	176	43.825	17.081	15.652	1.00	21.81
atom	1372	OH	TYR	176	44.135	16.572	16.897	1.00	24.09
atom	1373	C	TYR	176	40.544	19.281	12.639	1.00	23.42
atom	1374	O	TYR	176	39.834	18.617	13.401	1.00	24.86
atom	1375	N	ASP	177	40.667	20.602	12.725	1.00	19.86
atom	1376	CA	ASP	177	39.973	21.381	13.751	1.00	24.18
atom	1377	CB	ASP	177	40.235	22.895	13.584	1.00	24.04
atom	1378	CG	ASP	177	39.836	23.720	14.830	1.00	28.43
atom	1379	OD1	ASP	177	39.646	24.954	14.698	1.00	25.72
atom	1380	OD2	ASP	177	39.723	23.142	15.940	1.00	30.12
atom	1381	C	ASP	177	38.480	21.121	13.689	1.00	23.39
atom	1382	O	ASP	177	37.858	20.791	14.701	1.00	18.65
atom	1383	N	VAL	178	37.925	21.278	12.490	1.00	26.00
atom	1384	CA	VAL	178	36.503	21.068	12.241	1.00	22.90
atom	1385	CB	VAL	178	36.187	21.206	10.734	1.00	24.09
atom	1386	CG1	VAL	178	34.742	20.761	10.447	1.00	21.97
atom	1387	CG2	VAL	178	36.420	22.642	10.287	1.00	18.09
atom	1388	C	VAL	178	36.090	19.673	12.666	1.00	22.07
atom	1389	O	VAL	178	35.087	19.485	13.325	1.00	22.18
atom	1390	N	VAL	179	36.896	18.699	12.278	1.00	21.01
atom	1391	CA	VAL	179	36.624	17.296	12.538	1.00	19.30

atom	1392	CB	VAL	179	37.459	16.452	11.506	1.00	17.27
atom	1393	CG1	VAL	179	37.942	15.161	12.075	1.00	15.59
atom	1394	CG2	VAL	179	36.626	16.198	10.280	1.00	5.32
atom	1395	C	VAL	179	36.830	16.836	13.993	1.00	23.09
atom	1396	O	VAL	179	36.416	15.729	14.372	1.00	24.82
atom	1397	N	SER	180	37.438	17.676	14.821	1.00	20.55
atom	1398	CA	SER	180	37.638	17.306	16.217	1.00	19.50
atom	1399	CB	SER	180	39.123	17.268	16.562	1.00	17.45
atom	1400	OG	SER	180	39.768	18.460	16.176	1.00	18.00
atom	1401	C	SER	180	36.939	18.278	17.147	1.00	22.13
atom	1402	O	SER	180	37.040	18.166	18.366	1.00	23.67
atom	1403	N	THR	181	36.211	19.225	16.570	1.00	22.08
atom	1404	CA	THR	181	35.522	20.224	17.361	1.00	24.72
atom	1405	CB	THR	181	36.063	21.648	17.058	1.00	29.04
atom	1406	OG1	THR	181	37.417	21.764	17.521	1.00	31.21
atom	1407	CG2	THR	181	35.222	22.697	17.754	1.00	34.02
atom	1408	C	THR	181	34.024	20.230	17.141	1.00	23.96
atom	1409	O	THR	181	33.257	20.222	18.101	1.00	25.10
atom	1410	N	LEU	182	33.614	20.211	15.878	1.00	22.24
atom	1411	CA	LEU	182	32.194	20.278	15.517	1.00	20.03
atom	1412	CB	LEU	182	32.080	20.533	14.006	1.00	16.49
atom	1413	CG	LEU	182	30.764	20.247	13.288	1.00	13.61
atom	1414	CD1	LEU	182	30.473	21.285	12.231	1.00	10.62
atom	1415	CD2	LEU	182	30.871	18.883	12.672	1.00	18.21
atom	1416	C	LEU	182	31.239	19.156	15.932	1.00	18.70
atom	1417	O	LEU	182	30.076	19.411	16.246	1.00	17.38
atom	1418	N	PRO	183	31.705	17.902	15.949	1.00	24.20
atom	1419	CD	PRO	183	33.041	17.389	15.603	1.00	21.52
atom	1420	CA	PRO	183	30.778	16.824	16.345	1.00	25.01
atom	1421	CB	PRO	183	31.625	15.555	16.259	1.00	24.26
atom	1422	CG	PRO	183	32.766	15.923	15.337	1.00	27.42
atom	1423	C	PRO	183	30.150	16.988	17.727	1.00	27.49
atom	1424	O	PRO	183	28.938	16.860	17.890	1.00	25.95
atom	1425	N	GLN	184	30.975	17.274	18.722	1.00	28.58
atom	1426	CA	GLN	184	30.464	17.428	20.075	1.00	29.48
atom	1427	CB	GLN	184	31.605	17.736	21.046	1.00	32.11

atom	1428	CG	GLN	184	31.533	16.935	22.326	1.00	43.59
atom	1429	CD	GLN	184	32.132	17.669	23.513	1.00	52.97
atom	1430	OE1	GLN	184	33.004	17.143	24.207	1.00	54.15
atom	1431	NE2	GLN	184	31.668	18.893	23.750	1.00	56.44
atom	1432	C	GLN	184	29.413	18.517	20.162	1.00	26.07
atom	1433	O	GLN	184	28.370	18.341	20.794	1.00	26.07
atom	1434	N	VAL	185	29.682	19.643	19.517	1.00	22.55
atom	1435	CA	VAL	185	28.755	20.756	19.561	1.00	17.75
atom	1436	CB	VAL	185	29.354	22.045	18.958	1.00	14.40
atom	1437	CG1	VAL	185	28.388	23.213	19.202	1.00	9.26
atom	1438	CG2	VAL	185	30.709	22.336	19.568	1.00	2.00
atom	1439	C	VAL	185	27.466	20.447	18.828	1.00	19.34
atom	1440	O	VAL	185	26.400	20.866	19.260	1.00	25.62
atom	1441	N	VAL	186	27.548	19.715	17.730	1.00	15.24
atom	1442	CA	VAL	186	26.333	19.398	16.993	1.00	14.51
atom	1443	CB	VAL	186	26.635	18.907	15.525	1.00	16.42
atom	1444	CG1	VAL	186	25.339	18.383	14.877	1.00	4.47
atom	1445	CG2	VAL	186	27.261	20.044	14.680	1.00	8.35
atom	1446	C	VAL	186	25.513	18.309	17.680	1.00	15.94
atom	1447	O	VAL	186	24.304	18.431	17.851	1.00	17.63
atom	1448	N	MET	187	26.176	17.238	18.087	1.00	18.70
atom	1449	CA	MET	187	25.467	16.117	18.674	1.00	17.25
atom	1450	CB	MET	187	26.079	14.814	18.119	1.00	18.33
atom	1451	CG	MET	187	25.890	14.700	16.581	1.00	13.46
atom	1452	SD	MET	187	26.973	13.526	15.676	1.00	20.52
atom	1453	CE	MET	187	26.373	12.004	16.291	1.00	20.96
atom	1454	C	MET	187	25.333	16.074	20.191	1.00	17.46
atom	1455	O	MET	187	24.592	15.251	20.718	1.00	20.33
atom	1456	N	GLY	188	26.029	16.956	20.895	1.00	17.70
atom	1457	CA	GLY	188	25.928	16.966	22.347	1.00	18.64
atom	1458	C	GLY	188	26.339	15.677	23.049	1.00	19.86
atom	1459	O	GLY	188	27.277	14.994	22.613	1.00	18.30
atom	1460	N	SER	189	25.624	15.327	24.118	1.00	13.87
atom	1461	CA	SER	189	25.952	14.128	24.893	1.00	17.42
atom	1462	CB	SER	189	25.061	13.992	26.145	1.00	12.03
atom	1463	OG	SER	189	23.696	14.207	25.843	1.00	18.25

	atom	1464	C	SER	189	25.862	12.863	24.089	1.00	16.25
	atom	1465	O	SER	189	26.330	11.825	24.524	1.00	15.99
	atom	1466	N	SER	190	25.252	12.957	22.911	1.00	17.69
	atom	1467	CA	SER	190	25.117	11.812	22.026	1.00	13.15
	atom	1468	CB	SER	190	24.036	12.104	20.984	1.00	14.83
	atom	1469	OG	SER	190	22.736	11.995	21.536	1.00	17.43
	atom	1470	C	SER	190	26.445	11.462	21.310	1.00	15.44
	atom	1471	O	SER	190	26.555	10.387	20.703	1.00	19.87
	atom	1472	N	TYR	191	27.441	12.349	21.365	1.00	7.89
	atom	1473	CA	TYR	191	28.720	12.080	20.699	1.00	11.45
	atom	1474	CB	TYR	191	29.500	13.371	20.479	1.00	4.60
	atom	1475	CG	TYR	191	30.682	13.211	19.570	1.00	8.04
	atom	1476	CD1	TYR	191	30.591	12.470	18.392	1.00	17.37
	atom	1477	CE1	TYR	191	31.698	12.339	17.525	1.00	15.08
	atom	1478	CD2	TYR	191	31.905	13.815	19.868	1.00	11.56
	atom	1479	CE2	TYR	191	33.006	13.693	19.016	1.00	10.55
	atom	1480	CZ	TYR	191	32.899	12.960	17.846	1.00	17.72
	atom	1481	OH	TYR	191	33.980	12.878	16.993	1.00	17.02
	atom	1482	C	TYR	191	29.614	11.086	21.438	1.00	13.99
	atom	1483	O	TYR	191	30.417	11.468	22.281	1.00	15.45
	atom	1484	N	GLY	192	29.486	9.810	21.091	1.00	16.18
	atom	1485	CA	GLY	192	30.271	8.772	21.728	1.00	11.25
	atom	1486	C	GLY	192	31.754	9.007	21.985	1.00	16.97
	atom	1487	O	GLY	192	32.189	8.813	23.105	1.00	18.14
	atom	1488	N	PHE	193	32.538	9.431	20.990	1.00	17.05
	atom	1489	CA	PHE	193	33.985	9.596	21.202	1.00	15.36
	atom	1490	CB	PHE	193	34.702	9.845	19.863	1.00	9.63
	atom	1491	CG	PHE	193	34.471	8.749	18.841	1.00	12.30
	atom	1492	CD1	PHE	193	33.799	9.024	17.636	1.00	9.68
	atom	1493	CD2	PHE	193	34.826	7.423	19.129	1.00	6.80
	atom	1494	CE1	PHE	193	33.472	7.995	16.736	1.00	6.25
	atom	1495	CE2	PHE	193	34.510	6.377	18.248	1.00	12.36
	atom	1496	CZ	PHE	193	33.827	6.655	17.045	1.00	6.66
	atom	1497	C	PHE	193	34.438	10.622	22.245	1.00	16.34
	atom	1498	O	PHE	193	35.632	10.764	22.508	1.00	17.70
	atom	1499	N	GLN	194	33.505	11.338	22.844	1.00	13.56

	atom	1500	CA	GLN	194	33.881	12.299	23.871	1.00	15.20
	atom	1501	CB	GLN	194	32.825	13.400	23.988	1.00	12.23
	atom	1502	CG	GLN	194	31.573	12.947	24.708	1.00	6.84
	atom	1503	CD	GLN	194	30.473	13.965	24.645	1.00	8.12
	atom	1504	OE1	GLN	194	30.645	15.117	25.055	1.00	15.59
	atom	1505	NE2	GLN	194	29.331	13.555	24.129	1.00	8.58
	atom	1506	C	GLN	194	33.973	11.547	25.209	1.00	18.89
	atom	1507	O	GLN	194	34.481	12.086	26.203	1.00	15.22
	atom	1508	N	TYR	195	33.492	10.298	25.210	1.00	14.89
	atom	1509	CA	TYR	195	33.467	9.479	26.407	1.00	11.78
	atom	1510	CB	TYR	195	32.137	8.731	26.484	1.00	10.12
	atom	1511	CG	TYR	195	30.923	9.639	26.603	1.00	7.64
	atom	1512	CD1	TYR	195	29.791	9.409	25.835	1.00	6.64
	atom	1513	CE1	TYR	195	28.684	10.240	25.913	1.00	9.04
	atom	1514	CD2	TYR	195	30.914	10.744	27.475	1.00	10.79
	atom	1515	CE2	TYR	195	29.802	11.587	27.562	1.00	3.29
	atom	1516	CZ	TYR	195	28.691	11.324	26.774	1.00	8.40
	atom	1517	OH	TYR	195	27.584	12.144	26.797	1.00	10.79
	atom	1518	C	TYR	195	34.603	8.494	26.562	1.00	15.50
	atom	1519	O	TYR	195	35.006	7.854	25.600	1.00	17.27
	atom	1520	N	SER	196	35.139	8.395	27.778	1.00	17.84
	atom	1521	CA	SER	196	36.213	7.441	28.071	1.00	17.44
	atom	1522	CB	SER	196	36.937	7.792	29.383	1.00	22.27
	atom	1523	OG	SER	196	36.088	7.619	30.511	1.00	24.61
	atom	1524	C	SER	196	35.376	6.196	28.266	1.00	17.04
	atom	1525	O	SER	196	34.159	6.304	28.424	1.00	19.71
	atom	1526	N	PRO	197	35.980	5.003	28.222	1.00	15.92
	atom	1527	CD	PRO	197	37.379	4.613	27.980	1.00	13.27
	atom	1528	CA	PRO	197	35.072	3.861	28.422	1.00	18.00
	atom	1529	CB	PRO	197	35.987	2.627	28.421	1.00	14.58
	atom	1530	CG	PRO	197	37.391	3.129	28.250	1.00	12.92
	atom	1531	C	PRO	197	34.245	3.988	29.707	1.00	21.73
	atom	1532	O	PRO	197	33.088	3.557	29.760	1.00	24.27
	atom	1533	N	GLY	198	34.829	4.609	30.732	1.00	25.79
	atom	1534	CA	GLY	198	34.119	4.779	31.995	1.00	21.47
	atom	1535	C	GLY	198	32.938	5.731	31.928	1.00	18.39

atom	1536	O	GLY	198	31.867	5.480	32.503	1.00	15.12
atom	1537	N	GLN	199	33.123	6.842	31.235	1.00	17.90
atom	1538	CA	GLN	199	32.033	7.798	31.104	1.00	23.69
atom	1539	CB	GLN	199	32.587	9.130	30.616	1.00	26.63
atom	1540	CG	GLN	199	33.592	9.732	31.595	1.00	24.77
atom	1541	CD	GLN	199	34.400	10.856	30.977	1.00	29.54
atom	1542	OE1	GLN	199	34.958	10.715	29.889	1.00	23.75
atom	1543	NE2	GLN	199	34.470	11.982	31.675	1.00	29.26
atom	1544	C	GLN	199	30.928	7.279	30.172	1.00	24.56
atom	1545	O	GLN	199	29.765	7.678	30.288	1.00	28.87
atom	1546	N	ARG	200	31.287	6.373	29.264	1.00	21.97
atom	1547	CA	ARG	200	30.306	5.803	28.351	1.00	21.41
atom	1548	CB	ARG	200	30.965	4.906	27.307	1.00	22.44
atom	1549	CG	ARG	200	30.330	5.021	25.941	1.00	24.72
atom	1550	CD	ARG	200	30.120	3.666	25.239	1.00	29.31
atom	1551	NE	ARG	200	29.402	3.853	23.975	1.00	27.95
atom	1552	CZ	ARG	200	28.971	2.872	23.202	1.00	28.38
atom	1553	NH1	ARG	200	29.177	1.603	23.542	1.00	39.86
atom	1554	NH2	ARG	200	28.298	3.161	22.107	1.00	33.61
atom	1555	C	ARG	200	29.326	4.976	29.138	1.00	20.61
atom	1556	O	ARG	200	28.120	4.974	28.858	1.00	18.42
atom	1557	N	VAL	201	29.845	4.258	30.130	1.00	20.11
atom	1558	CA	VAL	201	28.981	3.426	30.951	1.00	16.47
atom	1559	CB	VAL	201	29.818	2.407	31.768	1.00	23.27
atom	1560	CG1	VAL	201	30.856	3.125	32.639	1.00	23.85
atom	1561	CG2	VAL	201	28.891	1.532	32.598	1.00	26.32
atom	1562	C	VAL	201	28.118	4.307	31.850	1.00	13.87
atom	1563	O	VAL	201	26.908	4.103	31.975	1.00	8.32
atom	1564	N	GLU	202	28.735	5.321	32.441	1.00	17.54
atom	1565	CA	GLU	202	28.018	6.232	33.326	1.00	16.90
atom	1566	CB	GLU	202	28.951	7.378	33.752	1.00	19.88
atom	1567	CG	GLU	202	28.444	8.294	34.881	1.00	22.45
atom	1568	CD	GLU	202	29.154	9.672	34.925	1.00	27.15
atom	1569	OE1	GLU	202	30.263	9.831	34.348	1.00	26.78
atom	1570	OE2	GLU	202	28.598	10.606	35.548	1.00	29.71
atom	1571	C	GLU	202	26.794	6.785	32.592	1.00	22.44

atom	1572	O	GLU	202	25.698	6.861	33.162	1.00	22.88
atom	1573	N	PHE	203	26.979	7.124	31.314	1.00	19.14
atom	1574	CA	PHE	203	25.915	7.693	30.506	1.00	15.22
atom	1575	CB	PHE	203	26.542	8.408	29.300	1.00	17.64
atom	1576	CG	PHE	203	25.544	9.051	28.376	1.00	21.29
atom	1577	CD1	PHE	203	25.510	8.705	27.024	1.00	18.86
atom	1578	CD2	PHE	203	24.622	9.989	28.857	1.00	19.90
atom	1579	CE1	PHE	203	24.562	9.279	26.150	1.00	19.52
atom	1580	CE2	PHE	203	23.671	10.576	28.002	1.00	19.32
atom	1581	CZ	PHE	203	23.639	10.218	26.643	1.00	21.32
atom	1582	C	PHE	203	24.847	6.677	30.071	1.00	18.08
atom	1583	O	PHE	203	23.674	7.017	29.943	1.00	21.36
atom	1584	N	LEU	204	25.222	5.429	29.843	1.00	15.58
atom	1585	CA	LEU	204	24.208	4.460	29.435	1.00	16.10
atom	1586	CB	LEU	204	24.862	3.191	28.864	1.00	12.24
atom	1587	CG	LEU	204	25.732	3.460	27.630	1.00	20.18
atom	1588	CD1	LEU	204	26.698	2.271	27.360	1.00	11.68
atom	1589	CD2	LEU	204	24.794	3.757	26.412	1.00	15.33
atom	1590	C	LEU	204	23.333	4.116	30.641	1.00	17.00
atom	1591	O	LEU	204	22.107	4.178	30.561	1.00	14.29
atom	1592	N	VAL	205	23.976	3.754	31.754	1.00	18.18
atom	1593	CA	VAL	205	23.277	3.406	32.989	1.00	17.32
atom	1594	CB	VAL	205	24.299	3.141	34.149	1.00	21.22
atom	1595	CG1	VAL	205	23.589	2.601	35.354	1.00	21.39
atom	1596	CG2	VAL	205	25.374	2.141	33.718	1.00	13.01
atom	1597	C	VAL	205	22.343	4.572	33.378	1.00	20.78
atom	1598	O	VAL	205	21.143	4.385	33.624	1.00	20.38
atom	1599	N	ASN	206	22.890	5.780	33.408	1.00	22.91
atom	1600	CA	ASN	206	22.107	6.966	33.763	1.00	25.38
atom	1601	CB	ASN	206	22.974	8.216	33.745	1.00	26.40
atom	1602	CG	ASN	206	23.744	8.389	35.005	1.00	19.55
atom	1603	OD1	ASN	206	24.444	9.382	35.184	1.00	21.80
atom	1604	ND2	ASN	206	23.630	7.416	35.898	1.00	23.29
atom	1605	C	ASN	206	20.961	7.192	32.815	1.00	26.44
atom	1606	O	ASN	206	19.839	7.462	33.242	1.00	28.16
atom	1607	N	THR	207	21.256	7.127	31.523	1.00	24.98

atom	1608	CA	THR	207	20.219	7.313	30.530	1.00	21.70
atom	1609	CB	THR	207	20.753	7.043	29.129	1.00	17.74
atom	1610	OG1	THR	207	21.645	8.099	28.752	1.00	16.88
atom	1611	CG2	THR	207	19.609	6.968	28.142	1.00	22.24
atom	1612	C	THR	207	19.108	6.326	30.861	1.00	21.12
atom	1613	O	THR	207	17.939	6.694	30.952	1.00	20.10
atom	1614	N	TRP	208	19.505	5.073	31.052	1.00	23.41
atom	1615	CA	TRP	208	18.605	3.973	31.400	1.00	28.02
atom	1616	CB	TRP	208	19.424	2.689	31.533	1.00	27.05
atom	1617	CG	TRP	208	18.613	1.453	31.511	1.00	31.65
atom	1618	CD2	TRP	208	18.175	0.738	30.352	1.00	33.96
atom	1619	CE2	TRP	208	17.439	-0.377	30.803	1.00	34.68
atom	1620	CE3	TRP	208	18.324	0.937	28.975	1.00	33.40
atom	1621	CD1	TRP	208	18.146	0.763	32.586	1.00	31.92
atom	1622	NE1	TRP	208	17.440	-0.339	32.171	1.00	35.78
atom	1623	CZ2	TRP	208	16.863	-1.299	29.929	1.00	36.13
atom	1624	CZ3	TRP	208	17.749	0.019	28.103	1.00	31.62
atom	1625	CH2	TRP	208	17.024	-1.082	28.586	1.00	32.37
atom	1626	C	TRP	208	17.836	4.214	32.711	1.00	32.31
atom	1627	O	TRP	208	16.647	3.906	32.821	1.00	34.09
atom	1628	N	LYS	209	18.520	4.751	33.716	1.00	33.04
atom	1629	CA	LYS	209	17.884	5.016	35.001	1.00	33.68
atom	1630	CB	LYS	209	18.943	5.467	36.027	1.00	35.81
atom	1631	CG	LYS	209	19.240	4.451	37.153	1.00	34.82
atom	1632	CD	LYS	209	19.556	3.046	36.626	1.00	30.83
atom	1633	CE	LYS	209	20.925	2.582	37.117	1.00	33.81
atom	1634	NZ	LYS	209	20.971	1.146	37.574	1.00	30.23
atom	1635	C	LYS	209	16.785	6.077	34.881	1.00	33.73
atom	1636	O	LYS	209	15.681	5.911	35.407	1.00	35.70
atom	1637	N	SER	210	17.102	7.163	34.185	1.00	34.05
atom	1638	CA	SER	210	16.188	8.279	33.979	1.00	33.11
atom	1639	CB	SER	210	16.905	9.384	33.211	1.00	31.63
atom	1640	OG	SER	210	17.028	9.031	31.838	1.00	26.49
atom	1641	C	SER	210	14.932	7.896	33.208	1.00	36.12
atom	1642	O	SER	210	14.069	8.733	32.955	1.00	38.49
atom	1643	N	LYS	211	14.836	6.638	32.812	1.00	37.66

atom	1644	CA	LYS	211	13.683	6.188	32.062	1.00	38.76
atom	1645	CB	LYS	211	14.154	5.357	30.865	1.00	39.23
atom	1646	CG	LYS	211	14.039	6.076	29.532	1.00	43.26
atom	1647	CD	LYS	211	14.542	7.523	29.589	1.00	36.45
atom	1648	CE	LYS	211	15.434	7.817	28.384	1.00	35.75
atom	1649	NZ	LYS	211	15.475	9.271	28.025	1.00	36.57
atom	1650	C	LYS	211	12.756	5.360	32.953	1.00	41.48
atom	1651	O	LYS	211	13.161	4.326	33.493	1.00	40.77
atom	1652	N	LYS	212	11.514	5.815	33.108	1.00	41.02
atom	1653	CA	LYS	212	10.539	5.100	33.922	1.00	39.98
atom	1654	CB	LYS	212	9.167	5.736	33.779	1.00	38.68
atom	1655	CG	LYS	212	8.418	5.845	35.095	1.00	38.52
atom	1656	CD	LYS	212	7.007	6.349	34.886	1.00	40.92
atom	1657	CE	LYS	212	6.969	7.864	34.750	1.00	39.61
atom	1658	NZ	LYS	212	8.305	8.448	34.458	1.00	39.84
atom	1659	C	LYS	212	10.472	3.650	33.477	1.00	42.66
atom	1660	O	LYS	212	10.675	2.720	34.272	1.00	43.97
atom	1661	N	ASN	213	10.176	3.460	32.198	1.00	43.21
atom	1662	CA	ASN	213	10.111	2.123	31.632	1.00	44.99
atom	1663	CB	ASN	213	8.687	1.812	31.218	1.00	44.32
atom	1664	CG	ASN	213	7.848	1.389	32.394	1.00	47.00
atom	1665	OD1	ASN	213	7.978	0.264	32.885	1.00	47.23
atom	1666	ND2	ASN	213	6.994	2.291	32.871	1.00	44.11
atom	1667	C	ASN	213	11.077	2.061	30.457	1.00	45.25
atom	1668	O	ASN	213	10.706	2.296	29.302	1.00	48.85
atom	1669	N	PRO	214	12.347	1.740	30.754	1.00	42.66
atom	1670	CD	PRO	214	12.779	1.421	32.126	1.00	41.11
atom	1671	CA	PRO	214	13.465	1.629	29.815	1.00	38.85
atom	1672	CB	PRO	214	14.679	1.443	30.730	1.00	39.58
atom	1673	CG	PRO	214	14.122	0.774	31.913	1.00	40.23
atom	1674	C	PRO	214	13.414	0.552	28.745	1.00	33.30
atom	1675	O	PRO	214	13.110	-0.612	29.022	1.00	29.69
atom	1676	N	MET	215	13.727	0.972	27.520	1.00	29.02
atom	1677	CA	MET	215	13.797	0.076	26.372	1.00	28.18
atom	1678	CB	MET	215	12.484	0.020	25.590	1.00	31.27
atom	1679	CG	MET	215	12.454	-1.102	24.548	1.00	32.65

atom	1680	SD	MET	215	13.237	-0.662	22.962	1.00	44.77
atom	1681	CE	MET	215	12.148	0.671	22.382	1.00	31.33
atom	1682	C	MET	215	14.869	0.639	25.481	1.00	25.30
atom	1683	O	MET	215	14.883	1.830	25.208	1.00	23.84
atom	1684	N	GLY	216	15.772	-0.224	25.045	1.00	22.88
atom	1685	CA	GLY	216	16.840	0.215	24.184	1.00	26.69
atom	1686	C	GLY	216	17.160	-0.813	23.126	1.00	28.78
atom	1687	O	GLY	216	16.853	-1.996	23.283	1.00	24.75
atom	1688	N	PHE	217	17.778	-0.344	22.046	1.00	27.24
atom	1689	CA	PHE	217	18.162	-1.197	20.938	1.00	22.26
atom	1690	CB	PHE	217	17.000	-1.345	19.931	1.00	21.51
atom	1691	CG	PHE	217	16.623	-0.057	19.212	1.00	24.23
atom	1692	CD1	PHE	217	15.596	0.761	19.701	1.00	18.03
atom	1693	CD2	PHE	217	17.322	0.359	18.066	1.00	24.84
atom	1694	CE1	PHE	217	15.277	1.974	19.070	1.00	14.77
atom	1695	CE2	PHE	217	17.007	1.582	17.426	1.00	17.90
atom	1696	CZ	PHE	217	15.986	2.384	17.933	1.00	18.19
atom	1697	C	PHE	217	19.380	-0.619	20.230	1.00	23.61
atom	1698	O	PHE	217	19.649	0.595	20.273	1.00	18.23
atom	1699	N	SER	218	20.130	-1.504	19.588	1.00	21.59
atom	1700	CA	SER	218	21.273	-1.075	18.837	1.00	20.66
atom	1701	CB	SER	218	22.447	-2.013	19.053	1.00	18.24
atom	1702	OG	SER	218	22.156	-3.312	18.588	1.00	31.33
atom	1703	C	SER	218	20.752	-1.166	17.425	1.00	18.59
atom	1704	O	SER	218	19.708	-1.733	17.192	1.00	22.08
atom	1705	N	TYR	219	21.453	-0.570	16.487	1.00	20.71
atom	1706	CA	TYR	219	21.031	-0.629	15.115	1.00	24.24
atom	1707	CB	TYR	219	20.477	0.718	14.653	1.00	25.03
atom	1708	CG	TYR	219	19.842	0.621	13.290	1.00	30.08
atom	1709	CD1	TYR	219	18.504	0.242	13.155	1.00	28.21
atom	1710	CE1	TYR	219	17.921	0.080	11.902	1.00	28.31
atom	1711	CD2	TYR	219	20.582	0.849	12.132	1.00	23.75
atom	1712	CE2	TYR	219	20.003	0.688	10.871	1.00	26.41
atom	1713	CZ	TYR	219	18.677	0.298	10.765	1.00	25.69
atom	1714	OH	TYR	219	18.123	0.059	9.531	1.00	24.99
atom	1715	C	TYR	219	22.281	-0.961	14.343	1.00	25.43

atom	1716	O	TYR	219	23.206	-0.153	14.297	1.00	26.39
atom	1717	N	ASP	220	22.329	-2.156	13.769	1.00	28.31
atom	1718	CA	ASP	220	23.496	-2.558	12.996	1.00	31.56
atom	1719	CB	ASP	220	23.830	-4.030	13.226	1.00	33.93
atom	1720	CG	ASP	220	25.261	-4.361	12.827	1.00	42.92
atom	1721	OD1	ASP	220	26.170	-3.557	13.165	1.00	40.05
atom	1722	OD2	ASP	220	25.476	-5.410	12.170	1.00	44.65
atom	1723	C	ASP	220	23.227	-2.320	11.520	1.00	33.04
atom	1724	O	ASP	220	22.497	-3.073	10.877	1.00	31.00
atom	1725	N	THR	221	23.808	-1.263	10.980	1.00	32.02
atom	1726	CA	THR	221	23.591	-0.958	9.581	1.00	38.44
atom	1727	CB	THR	221	23.564	0.584	9.406	1.00	41.81
atom	1728	OG1	THR	221	24.010	0.941	8.092	1.00	50.19
atom	1729	CG2	THR	221	24.430	1.251	10.476	1.00	41.82
atom	1730	C	THR	221	24.656	-1.663	8.704	1.00	38.27
atom	1731	O	THR	221	25.861	-1.558	8.961	1.00	37.56
atom	1732	N	ARG	222	24.204	-2.402	7.689	1.00	36.38
atom	1733	CA	ARG	222	25.105	-3.153	6.805	1.00	38.82
atom	1734	CB	ARG	222	24.277	-4.055	5.887	1.00	44.88
atom	1735	CG	ARG	222	24.392	-5.532	6.237	1.00	55.39
atom	1736	CD	ARG	222	24.585	-6.394	5.000	1.00	60.84
atom	1737	NE	ARG	222	25.888	-6.166	4.375	1.00	65.59
atom	1738	CZ	ARG	222	26.415	-6.937	3.424	1.00	66.51
atom	1739	NH1	ARG	222	25.751	-7.997	2.976	1.00	65.57
atom	1740	NH2	ARG	222	27.611	-6.649	2.921	1.00	67.20
atom	1741	C	ARG	222	26.087	-2.312	5.964	1.00	35.30
atom	1742	O	ARG	222	25.664	-1.489	5.144	1.00	34.68
atom	1743	N	CYS	223	27.391	-2.552	6.140	1.00	28.37
atom	1744	CA	CYS	223	28.425	-1.786	5.431	1.00	25.64
atom	1745	CB	CYS	223	28.693	-2.330	4.026	1.00	28.82
atom	1746	SG	CYS	223	27.878	-3.882	3.597	1.00	38.53
atom	1747	C	CYS	223	27.953	-0.345	5.334	1.00	24.16
atom	1748	O	CYS	223	27.476	0.127	4.296	1.00	26.66
atom	1749	N	PHE	224	28.069	0.355	6.445	1.00	19.76
atom	1750	CA	PHE	224	27.617	1.720	6.495	1.00	17.21
atom	1751	CB	PHE	224	27.856	2.311	7.877	1.00	11.71

atom	1752	CG	PHE	224	27.251	3.641	8.038	1.00	6.54
atom	1753	CD1	PHE	224	28.009	4.766	7.904	1.00	3.35
atom	1754	CD2	PHE	224	25.892	3.765	8.248	1.00	12.53
atom	1755	CE1	PHE	224	27.436	6.004	7.966	1.00	12.14
atom	1756	CE2	PHE	224	25.299	5.013	8.317	1.00	17.37
atom	1757	CZ	PHE	224	26.080	6.136	8.172	1.00	12.23
atom	1758	C	PHE	224	28.303	2.578	5.449	1.00	20.24
atom	1759	O	PHE	224	27.700	3.501	4.899	1.00	18.35
atom	1760	N	ASP	225	29.573	2.269	5.197	1.00	19.31
atom	1761	CA	ASP	225	30.362	3.005	4.227	1.00	16.43
atom	1762	CB	ASP	225	31.798	2.482	4.217	1.00	18.29
atom	1763	CG	ASP	225	32.601	2.966	5.417	1.00	19.09
atom	1764	OD1	ASP	225	31.977	3.479	6.366	1.00	17.99
atom	1765	OD2	ASP	225	33.845	2.837	5.415	1.00	17.38
atom	1766	C	ASP	225	29.760	2.899	2.842	1.00	17.37
atom	1767	O	ASP	225	29.723	3.883	2.110	1.00	20.94
atom	1768	N	SER	226	29.261	1.717	2.492	1.00	15.11
atom	1769	CA	SER	226	28.673	1.514	1.176	1.00	14.56
atom	1770	CB	SER	226	28.655	0.021	0.851	1.00	17.21
atom	1771	OG	SER	226	29.953	-0.366	0.410	1.00	21.67
atom	1772	C	SER	226	27.276	2.113	0.982	1.00	14.33
atom	1773	O	SER	226	26.799	2.244	-0.147	1.00	10.11
atom	1774	N	THR	227	26.623	2.490	2.073	1.00	9.91
atom	1775	CA	THR	227	25.294	3.071	1.971	1.00	8.56
atom	1776	CB	THR	227	24.369	2.649	3.150	1.00	10.08
atom	1777	OG1	THR	227	24.792	3.302	4.359	1.00	12.01
atom	1778	CG2	THR	227	24.418	1.143	3.355	1.00	10.18
atom	1779	C	THR	227	25.350	4.574	1.969	1.00	6.14
atom	1780	O	THR	227	24.344	5.214	1.758	1.00	11.13
atom	1781	N	VAL	228	26.513	5.153	2.230	1.00	5.87
atom	1782	CA	VAL	228	26.582	6.601	2.228	1.00	9.08
atom	1783	CB	VAL	228	27.858	7.094	2.921	1.00	7.34
atom	1784	CG1	VAL	228	27.948	8.626	2.854	1.00	6.44
atom	1785	CG2	VAL	228	27.844	6.631	4.371	1.00	9.87
atom	1786	C	VAL	228	26.515	7.106	0.781	1.00	12.58
atom	1787	O	VAL	228	27.266	6.663	-0.092	1.00	14.27

atom	1788	N	THR	229	25.599	8.031	0.532	1.00	10.63
atom	1789	CA	THR	229	25.429	8.566	-0.799	1.00	8.72
atom	1790	CB	THR	229	23.944	8.879	-1.091	1.00	7.09
atom	1791	OG1	THR	229	23.484	9.923	-0.228	1.00	5.58
atom	1792	CG2	THR	229	23.100	7.649	-0.881	1.00	5.09
atom	1793	C	THR	229	26.245	9.821	-1.001	1.00	15.73
atom	1794	O	THR	229	26.903	10.327	-0.070	1.00	17.77
atom	1795	N	GLU	230	26.209	10.321	-2.229	1.00	15.28
atom	1796	CA	GLU	230	26.933	11.522	-2.568	1.00	16.64
atom	1797	CB	GLU	230	26.949	11.705	-4.082	1.00	26.00
atom	1798	CG	GLU	230	27.757	10.621	-4.804	1.00	34.06
atom	1799	CD	GLU	230	28.196	11.032	-6.212	1.00	38.31
atom	1800	OE1	GLU	230	27.683	12.059	-6.730	1.00	37.25
atom	1801	OE2	GLU	230	29.042	10.315	-6.799	1.00	39.10
atom	1802	C	GLU	230	26.170	12.632	-1.885	1.00	17.08
atom	1803	O	GLU	230	26.756	13.625	-1.413	1.00	16.22
atom	1804	N	ASN	231	24.853	12.447	-1.827	1.00	11.51
atom	1805	CA	ASN	231	23.985	13.406	-1.165	1.00	13.50
atom	1806	CB	ASN	231	22.547	12.925	-1.153	1.00	19.01
atom	1807	CG	ASN	231	21.666	13.780	-0.266	1.00	22.76
atom	1808	OD1	ASN	231	21.399	13.441	0.909	1.00	20.68
atom	1809	ND2	ASN	231	21.202	14.897	-0.820	1.00	17.27
atom	1810	C	ASN	231	24.424	13.570	0.285	1.00	14.00
atom	1811	O	ASN	231	24.589	14.691	0.765	1.00	13.52
atom	1812	N	ASP	232	24.593	12.437	0.974	1.00	8.91
atom	1813	CA	ASP	232	25.013	12.407	2.372	1.00	2.20
atom	1814	CB	ASP	232	25.279	10.970	2.794	1.00	2.00
atom	1815	CG	ASP	232	24.033	10.129	2.822	1.00	3.69
atom	1816	OD1	ASP	232	24.182	8.903	2.689	1.00	10.01
atom	1817	OD2	ASP	232	22.918	10.669	2.991	1.00	2.00
atom	1818	C	ASP	232	26.290	13.211	2.589	1.00	7.59
atom	1819	O	ASP	232	26.374	14.055	3.490	1.00	6.64
atom	1820	N	ILE	233	27.295	12.907	1.765	1.00	8.41
atom	1821	CA	ILE	233	28.588	13.565	1.820	1.00	11.32
atom	1822	CB	ILE	233	29.612	12.848	0.900	1.00	15.31
atom	1823	CG2	ILE	233	30.929	13.593	0.898	1.00	9.82

atom	1824	CG1	ILE	233	29.813	11.416	1.384	1.00	14.26
atom	1825	CD1	ILE	233	29.979	10.419	0.281	1.00	19.91
atom	1826	C	ILE	233	28.481	15.035	1.420	1.00	13.30
atom	1827	O	ILE	233	29.285	15.857	1.880	1.00	10.15
atom	1828	N	ARG	234	27.498	15.368	0.574	1.00	7.69
atom	1829	CA	ARG	234	27.331	16.768	0.184	1.00	10.10
atom	1830	CB	ARG	234	26.530	16.900	-1.103	1.00	6.01
atom	1831	CG	ARG	234	27.417	17.138	-2.298	1.00	17.01
atom	1832	CD	ARG	234	26.619	17.293	-3.600	1.00	21.96
atom	1833	NE	ARG	234	27.082	16.371	-4.630	1.00	24.65
atom	1834	CZ	ARG	234	26.349	15.365	-5.111	1.00	34.89
atom	1835	NH1	ARG	234	25.113	15.153	-4.656	1.00	34.61
atom	1836	NH2	ARG	234	26.851	14.553	-6.037	1.00	31.42
atom	1837	C	ARG	234	26.625	17.475	1.322	1.00	8.60
atom	1838	O	ARG	234	26.956	18.600	1.665	1.00	14.56
atom	1839	N	VAL	235	25.656	16.787	1.905	1.00	9.72
atom	1840	CA	VAL	235	24.902	17.288	3.039	1.00	13.66
atom	1841	CB	VAL	235	23.873	16.229	3.508	1.00	19.56
atom	1842	CG1	VAL	235	23.341	16.596	4.897	1.00	20.84
atom	1843	CG2	VAL	235	22.725	16.119	2.487	1.00	8.84
atom	1844	C	VAL	235	25.946	17.544	4.137	1.00	18.09
atom	1845	O	VAL	235	25.908	18.550	4.853	1.00	15.25
atom	1846	N	GLU	236	26.893	16.622	4.250	1.00	16.55
atom	1847	CA	GLU	236	27.974	16.776	5.209	1.00	21.32
atom	1848	CB	GLU	236	29.018	15.693	4.987	1.00	25.28
atom	1849	CG	GLU	236	29.445	14.939	6.205	1.00	26.53
atom	1850	CD	GLU	236	30.090	13.622	5.831	1.00	30.94
atom	1851	OE1	GLU	236	29.355	12.613	5.779	1.00	30.71
atom	1852	OE2	GLU	236	31.321	13.604	5.585	1.00	29.82
atom	1853	C	GLU	236	28.647	18.136	5.009	1.00	23.02
atom	1854	O	GLU	236	28.558	19.013	5.854	1.00	27.89
atom	1855	N	GLU	237	29.329	18.303	3.882	1.00	25.21
atom	1856	CA	GLU	237	30.035	19.547	3.581	1.00	25.51
atom	1857	CB	GLU	237	30.327	19.612	2.087	1.00	28.35
atom	1858	CG	GLU	237	31.306	20.686	1.692	1.00	28.67
atom	1859	CD	GLU	237	30.690	21.709	0.744	1.00	30.11

atom	1860	OE1	GLU	237	29.455	21.703	0.543	1.00	32.75
atom	1861	OE2	GLU	237	31.443	22.529	0.196	1.00	28.55
atom	1862	C	GLU	237	29.312	20.829	4.021	1.00	27.38
atom	1863	O	GLU	237	29.936	21.737	4.603	1.00	25.26
atom	1864	N	SER	238	28.004	20.900	3.758	1.00	25.92
atom	1865	CA	SER	238	27.221	22.089	4.113	1.00	22.66
atom	1866	CB	SER	238	25.820	22.024	3.481	1.00	16.27
atom	1867	OG	SER	238	24.918	21.202	4.201	1.00	20.41
atom	1868	C	SER	238	27.130	22.344	5.619	1.00	22.53
atom	1869	O	SER	238	26.926	23.481	6.055	1.00	23.80
atom	1870	N	ILE	239	27.278	21.286	6.408	1.00	19.38
atom	1871	CA	ILE	239	27.271	21.416	7.863	1.00	18.62
atom	1872	CB	ILE	239	27.138	20.044	8.548	1.00	12.66
atom	1873	CG2	ILE	239	27.433	20.172	10.031	1.00	13.29
atom	1874	CG1	ILE	239	25.719	19.513	8.320	1.00	9.59
atom	1875	CD1	ILE	239	25.482	18.160	8.914	1.00	8.77
atom	1876	C	ILE	239	28.620	22.050	8.240	1.00	19.33
atom	1877	O	ILE	239	28.675	23.007	9.002	1.00	22.17
atom	1878	N	TYR	240	29.706	21.512	7.692	1.00	18.63
atom	1879	CA	TYR	240	31.033	22.060	7.937	1.00	15.25
atom	1880	CB	TYR	240	32.101	21.358	7.099	1.00	12.94
atom	1881	CG	TYR	240	32.232	19.879	7.303	1.00	15.61
atom	1882	CD1	TYR	240	31.810	19.268	8.494	1.00	7.96
atom	1883	CE1	TYR	240	31.900	17.894	8.658	1.00	14.82
atom	1884	CD2	TYR	240	32.751	19.070	6.279	1.00	12.69
atom	1885	CE2	TYR	240	32.845	17.684	6.428	1.00	13.70
atom	1886	CZ	TYR	240	32.412	17.100	7.622	1.00	19.88
atom	1887	OH	TYR	240	32.459	15.729	7.766	1.00	22.17
atom	1888	C	TYR	240	31.060	23.524	7.527	1.00	17.48
atom	1889	O	TYR	240	31.664	24.344	8.210	1.00	18.27
atom	1890	N	GLN	241	30.417	23.846	6.401	1.00	16.83
atom	1891	CA	GLN	241	30.428	25.219	5.900	1.00	16.08
atom	1892	CB	GLN	241	29.932	25.296	4.439	1.00	16.21
atom	1893	CG	GLN	241	30.778	24.585	3.374	1.00	9.37
atom	1894	CD	GLN	241	32.164	25.184	3.171	1.00	17.64
atom	1895	OE1	GLN	241	32.458	26.302	3.620	1.00	14.54

atom	1896	NE2	GLN	241	33.032	24.432	2.484	1.00	16.20
atom	1897	C	GLN	241	29.578	26.137	6.768	1.00	18.69
atom	1898	O	GLN	241	29.616	27.355	6.628	1.00	18.09
atom	1899	N	CYS	242	28.786	25.560	7.655	1.00	19.26
atom	1900	CA	CYS	242	27.983	26.385	8.519	1.00	17.13
atom	1901	CB	CYS	242	26.889	25.548	9.145	1.00	16.03
atom	1902	SG	CYS	242	25.549	25.325	7.971	1.00	24.62
atom	1903	C	CYS	242	28.922	26.979	9.568	1.00	21.09
atom	1904	O	CYS	242	28.552	27.911	10.295	1.00	19.82
atom	1905	N	CYS	243	30.141	26.436	9.617	1.00	21.37
atom	1906	CA	CYS	243	31.188	26.907	10.534	1.00	24.50
atom	1907	CB	CYS	243	32.382	25.951	10.579	1.00	15.34
atom	1908	SG	CYS	243	32.092	24.409	11.389	1.00	29.68
atom	1909	C	CYS	243	31.730	28.235	10.034	1.00	26.31
atom	1910	O	CYS	243	31.511	28.621	8.883	1.00	21.13
atom	1911	N	ASP	244	32.445	28.920	10.919	1.00	28.04
atom	1912	CA	ASP	244	33.085	30.174	10.580	1.00	27.16
atom	1913	CB	ASP	244	33.130	31.100	11.784	1.00	29.16
atom	1914	CG	ASP	244	33.905	32.357	11.514	1.00	31.43
atom	1915	OD1	ASP	244	35.117	32.266	11.220	1.00	37.16
atom	1916	OD2	ASP	244	33.294	33.441	11.590	1.00	36.68
atom	1917	C	ASP	244	34.487	29.727	10.237	1.00	25.91
atom	1918	O	ASP	244	35.279	29.447	11.129	1.00	26.07
atom	1919	N	LEU	245	34.776	29.634	8.944	1.00	26.85
atom	1920	CA	LEU	245	36.088	29.191	8.467	1.00	25.33
atom	1921	CB	LEU	245	35.944	27.889	7.661	1.00	23.00
atom	1922	CG	LEU	245	35.291	26.675	8.334	1.00	23.70
atom	1923	CD1	LEU	245	34.274	26.094	7.391	1.00	24.92
atom	1924	CD2	LEU	245	36.349	25.633	8.710	1.00	23.20
atom	1925	C	LEU	245	36.846	30.213	7.609	1.00	25.10
atom	1926	O	LEU	245	36.262	31.073	6.931	1.00	19.47
atom	1927	N	ALA	246	38.165	30.127	7.661	1.00	22.80
atom	1928	CA	ALA	246	38.968	31.003	6.841	1.00	24.53
atom	1929	CB	ALA	246	40.432	30.626	6.981	1.00	18.27
atom	1930	C	ALA	246	38.488	30.761	5.391	1.00	25.10
atom	1931	O	ALA	246	38.089	29.647	5.030	1.00	21.52

	atom	1932	N	PRO	247	38.515	31.802	4.549	1.00	25.86
	atom	1933	CD	PRO	247	38.964	33.168	4.880	1.00	26.97
	atom	1934	CA	PRO	247	38.086	31.683	3.146	1.00	24.74
	atom	1935	CB	PRO	247	38.381	33.070	2.561	1.00	24.27
	atom	1936	CG	PRO	247	38.414	33.994	3.744	1.00	23.86
	atom	1937	C	PRO	247	38.806	30.564	2.363	1.00	25.32
	atom	1938	O	PRO	247	38.227	29.934	1.483	1.00	27.92
	atom	1939	N	GLU	248	40.070	30.335	2.693	1.00	26.43
	atom	1940	CA	GLU	248	40.895	29.310	2.064	1.00	29.15
	atom	1941	CB	GLU	248	42.361	29.577	2.371	1.00	35.18
	atom	1942	CG	GLU	248	42.988	30.634	1.512	1.00	40.16
	atom	1943	CD	GLU	248	44.358	30.220	1.075	1.00	42.56
	atom	1944	OE1	GLU	248	44.555	29.000	0.850	1.00	42.61
	atom	1945	OE2	GLU	248	45.232	31.109	0.966	1.00	46.82
	atom	1946	C	GLU	248	40.565	27.908	2.561	1.00	32.21
	atom	1947	O	GLU	248	40.986	26.914	1.967	1.00	35.04
	atom	1948	N	ALA	249	39.866	27.829	3.684	1.00	26.94
	atom	1949	CA	ALA	249	39.477	26.542	4.232	1.00	27.37
	atom	1950	CB	ALA	249	39.255	26.651	5.769	1.00	26.86
	atom	1951	C	ALA	249	38.178	26.153	3.524	1.00	24.28
	atom	1952	O	ALA	249	37.995	25.002	3.128	1.00	21.70
	atom	1953	N	ARG	250	37.293	27.136	3.362	1.00	20.43
	atom	1954	CA	ARG	250	36.021	26.932	2.700	1.00	23.31
	atom	1955	CB	ARG	250	35.296	28.256	2.585	1.00	23.72
	atom	1956	CG	ARG	250	34.488	28.629	3.788	1.00	28.13
	atom	1957	CD	ARG	250	33.625	29.837	3.472	1.00	24.38
	atom	1958	NE	ARG	250	33.181	30.546	4.674	1.00	31.26
	atom	1959	CZ	ARG	250	32.473	30.001	5.659	1.00	28.67
	atom	1960	NH1	ARG	250	32.115	28.727	5.600	1.00	28.56
	atom	1961	NH2	ARG	250	32.115	30.736	6.702	1.00	34.72
	atom	1962	C	ARG	250	36.224	26.353	1.308	1.00	23.99
	atom	1963	O	ARG	250	35.535	25.426	0.898	1.00	24.35
	atom	1964	N	GLN	251	37.178	26.914	0.580	1.00	29.27
	atom	1965	CA	GLN	251	37.475	26.468	-0.779	1.00	34.81
	atom	1966	CB	GLN	251	38.363	27.506	-1.477	1.00	36.88
	atom	1967	CG	GLN	251	38.883	27.078	-2.832	1.00	42.09

atom	1968	CD	GLN	251	37.819	27.097	-3.916	1.00	45.34
atom	1969	OE1	GLN	251	36.724	27.641	-3.742	1.00	43.73
atom	1970	NE2	GLN	251	38.142	26.494	-5.052	1.00	49.17
atom	1971	C	GLN	251	38.169	25.103	-0.749	1.00	33.48
atom	1972	O	GLN	251	38.177	24.362	-1.738	1.00	34.28
atom	1973	N	ALA	252	38.743	24.782	0.404	1.00	31.45
atom	1974	CA	ALA	252	39.446	23.519	0.609	1.00	26.65
atom	1975	CB	ALA	252	40.392	23.635	1.821	1.00	26.35
atom	1976	C	ALA	252	38.437	22.422	0.856	1.00	23.26
atom	1977	O	ALA	252	38.566	21.308	0.353	1.00	26.20
atom	1978	N	ILE	253	37.426	22.762	1.636	1.00	20.70
atom	1979	CA	ILE	253	36.392	21.826	1.998	1.00	25.42
atom	1980	CB	ILE	253	35.603	22.364	3.221	1.00	26.48
atom	1981	CG2	ILE	253	34.194	21.777	3.258	1.00	25.77
atom	1982	CG1	ILE	253	36.364	22.012	4.501	1.00	23.51
atom	1983	CD1	ILE	253	36.576	23.185	5.419	1.00	19.45
atom	1984	C	ILE	253	35.452	21.548	0.829	1.00	28.11
atom	1985	O	ILE	253	34.935	20.433	0.690	1.00	28.35
atom	1986	N	LYS	254	35.221	22.555	-0.010	1.00	27.94
atom	1987	CA	LYS	254	34.344	22.362	-1.164	1.00	27.29
atom	1988	CB	LYS	254	34.041	23.692	-1.859	1.00	31.22
atom	1989	CG	LYS	254	32.903	23.619	-2.849	1.00	32.19
atom	1990	CD	LYS	254	33.313	24.099	-4.223	1.00	36.74
atom	1991	CE	LYS	254	32.348	25.160	-4.726	1.00	41.08
atom	1992	NZ	LYS	254	31.308	24.585	-5.610	1.00	43.09
atom	1993	C	LYS	254	35.079	21.448	-2.117	1.00	26.57
atom	1994	O	LYS	254	34.535	20.441	-2.600	1.00	26.31
atom	1995	N	SER	255	36.338	21.794	-2.353	1.00	23.15
atom	1996	CA	SER	255	37.185	21.018	-3.236	1.00	25.37
atom	1997	CB	SER	255	38.569	21.643	-3.327	1.00	22.33
atom	1998	OG	SER	255	39.368	20.833	-4.169	1.00	32.54
atom	1999	C	SER	255	37.334	19.539	-2.858	1.00	24.84
atom	2000	O	SER	255	37.027	18.666	-3.672	1.00	27.25
atom	2001	N	LEU	256	37.802	19.243	-1.645	1.00	17.04
atom	2002	CA	LEU	256	37.973	17.840	-1.269	1.00	15.83
atom	2003	CB	LEU	256	38.584	17.739	0.127	1.00	18.84

	atom	2004	CG	LEU	256	40.082	18.046	0.258	1.00	16.70
	atom	2005	CD1	LEU	256	40.300	18.977	1.445	1.00	16.41
	atom	2006	CD2	LEU	256	40.855	16.770	0.457	1.00	10.37
	atom	2007	C	LEU	256	36.635	17.090	-1.328	1.00	13.95
	atom	2008	O	LEU	256	36.570	15.906	-1.656	1.00	14.47
	atom	2009	N	THR	257	35.552	17.788	-1.023	1.00	12.60
	atom	2010	CA	THR	257	34.250	17.151	-1.069	1.00	11.14
	atom	2011	CB	THR	257	33.190	18.104	-0.623	1.00	8.15
	atom	2012	OG1	THR	257	33.436	18.441	0.737	1.00	16.01
	atom	2013	CG2	THR	257	31.814	17.490	-0.794	1.00	2.00
	atom	2014	C	THR	257	33.892	16.639	-2.466	1.00	12.38
	atom	2015	O	THR	257	33.528	15.480	-2.603	1.00	13.28
	atom	2016	N	GLU	258	33.992	17.501	-3.488	1.00	15.08
	atom	2017	CA	GLU	258	33.660	17.129	-4.881	1.00	16.55
	atom	2018	CB	GLU	258	33.467	18.368	-5.777	1.00	18.49
	atom	2019	CG	GLU	258	32.347	19.334	-5.396	1.00	12.86
	atom	2020	CD	GLU	258	30.980	18.902	-5.897	1.00	19.96
	atom	2021	OE1	GLU	258	29.970	19.540	-5.533	1.00	28.35
	atom	2022	OE2	GLU	258	30.892	17.926	-6.658	1.00	18.70
	atom	2023	C	GLU	258	34.733	16.270	-5.535	1.00	16.06
	atom	2024	O	GLU	258	34.445	15.518	-6.463	1.00	24.28
	atom	2025	N	ARG	259	35.961	16.355	-5.044	1.00	13.40
	atom	2026	CA	ARG	259	37.055	15.608	-5.652	1.00	15.24
	atom	2027	CB	ARG	259	38.331	16.434	-5.616	1.00	15.45
	atom	2028	CG	ARG	259	38.341	17.685	-6.499	1.00	18.00
	atom	2029	CD	ARG	259	39.610	17.646	-7.330	1.00	14.70
	atom	2030	NE	ARG	259	40.440	18.823	-7.238	1.00	19.54
	atom	2031	CZ	ARG	259	41.722	18.841	-7.588	1.00	23.21
	atom	2032	NH1	ARG	259	42.296	17.739	-8.052	1.00	18.68
	atom	2033	NH2	ARG	259	42.424	19.965	-7.500	1.00	26.81
	atom	2034	C	ARG	259	37.375	14.253	-5.062	1.00	15.76
	atom	2035	O	ARG	259	37.733	13.317	-5.774	1.00	16.41
	atom	2036	N	LEU	260	37.279	14.148	-3.749	1.00	18.48
	atom	2037	CA	LEU	260	37.620	12.905	-3.104	1.00	14.79
	atom	2038	CB	LEU	260	38.926	13.123	-2.358	1.00	14.19
	atom	2039	CG	LEU	260	39.383	12.280	-1.181	1.00	13.57

atom	2040	CD1	LEU	260	40.401	11.272	-1.632	1.00	9.18
atom	2041	CD2	LEU	260	39.978	13.222	-0.155	1.00	10.22
atom	2042	C	LEU	260	36.532	12.315	-2.210	1.00	13.96
atom	2043	O	LEU	260	36.221	11.140	-2.337	1.00	9.01
atom	2044	N	TYR	261	35.933	13.120	-1.340	1.00	12.89
atom	2045	CA	TYR	261	34.901	12.597	-0.436	1.00	15.89
atom	2046	CB	TYR	261	34.425	13.698	0.526	1.00	13.43
atom	2047	CG	TYR	261	35.528	14.180	1.445	1.00	11.40
atom	2048	CD1	TYR	261	36.600	13.367	1.761	1.00	7.86
atom	2049	CE1	TYR	261	37.627	13.832	2.555	1.00	13.56
atom	2050	CD2	TYR	261	35.517	15.467	1.947	1.00	13.43
atom	2051	CE2	TYR	261	36.531	15.934	2.727	1.00	13.28
atom	2052	CZ	TYR	261	37.583	15.121	3.032	1.00	14.20
atom	2053	OH	TYR	261	38.567	15.619	3.845	1.00	18.77
atom	2054	C	TYR	261	33.702	11.987	-1.139	1.00	14.37
atom	2055	O	TYR	261	33.258	10.903	-0.791	1.00	13.68
atom	2056	N	ILE	262	33.189	12.698	-2.134	1.00	17.32
atom	2057	CA	ILE	262	32.035	12.262	-2.906	1.00	18.38
atom	2058	CB	ILE	262	31.620	13.392	-3.850	1.00	24.13
atom	2059	CG2	ILE	262	31.733	12.967	-5.299	1.00	23.73
atom	2060	CG1	ILE	262	30.228	13.869	-3.464	1.00	24.22
atom	2061	CD1	ILE	262	30.270	15.040	-2.530	1.00	22.83
atom	2062	C	ILE	262	32.279	10.981	-3.698	1.00	17.72
atom	2063	O	ILE	262	31.361	10.208	-3.945	1.00	23.83
atom	2064	N	GLY	263	33.522	10.750	-4.089	1.00	14.02
atom	2065	CA	GLY	263	33.822	9.567	-4.860	1.00	13.07
atom	2066	C	GLY	263	35.048	9.801	-5.722	1.00	15.51
atom	2067	O	GLY	263	35.675	10.874	-5.649	1.00	12.52
atom	2068	N	GLY	264	35.380	8.808	-6.548	1.00	11.84
atom	2069	CA	GLY	264	36.543	8.912	-7.408	1.00	10.59
atom	2070	C	GLY	264	37.030	7.554	-7.880	1.00	15.77
atom	2071	O	GLY	264	36.468	6.526	-7.501	1.00	18.26
atom	2072	N	PRO	265	38.062	7.522	-8.739	1.00	16.69
atom	2073	CD	PRO	265	38.743	8.716	-9.275	1.00	21.57
atom	2074	CA	PRO	265	38.642	6.295	-9.283	1.00	15.40
atom	2075	CB	PRO	265	39.563	6.796	-10.403	1.00	15.76

atom	2076	CG	PRO	265	39.950	8.134	-10.015	1.00	15.43
atom	2077	C	PRO	265	39.414	5.482	-8.253	1.00	15.52
atom	2078	O	PRO	265	40.034	6.044	-7.363	1.00	11.46
atom	2079	N	LEU	266	39.404	4.161	-8.425	1.00	19.24
atom	2080	CA	LEU	266	40.088	3.242	-7.522	1.00	19.03
atom	2081	CB	LEU	266	39.097	2.180	-7.029	1.00	19.47
atom	2082	CG	LEU	266	37.951	2.784	-6.208	1.00	23.78
atom	2083	CD1	LEU	266	36.662	2.020	-6.470	1.00	16.22
atom	2084	CD2	LEU	266	38.329	2.771	-4.716	1.00	22.20
atom	2085	C	LEU	266	41.324	2.555	-8.118	1.00	18.52
atom	2086	O	LEU	266	41.220	1.656	-8.939	1.00	11.92
atom	2087	N	THR	267	42.502	2.964	-7.662	1.00	23.15
atom	2088	CA	THR	267	43.746	2.385	-8.146	1.00	26.03
atom	2089	CB	THR	267	44.731	3.515	-8.442	1.00	26.23
atom	2090	OG1	THR	267	44.023	4.584	-9.085	1.00	22.47
atom	2091	CG2	THR	267	45.871	3.025	-9.330	1.00	22.46
atom	2092	C	THR	267	44.341	1.402	-7.111	1.00	28.57
atom	2093	O	THR	267	44.317	1.685	-5.907	1.00	34.94
atom	2094	N	ASN	268	44.854	0.257	-7.574	1.00	24.49
atom	2095	CA	ASN	268	45.447	-0.741	-6.682	1.00	25.47
atom	2096	CB	ASN	268	45.309	-2.144	-7.298	1.00	26.74
atom	2097	CG	ASN	268	46.118	-2.317	-8.567	1.00	26.59
atom	2098	OD1	ASN	268	47.108	-1.631	-8.789	1.00	31.14
atom	2099	ND2	ASN	268	45.697	-3.244	-9.403	1.00	23.96
atom	2100	C	ASN	268	46.916	-0.448	-6.321	1.00	24.45
atom	2101	O	ASN	268	47.415	0.641	-6.576	1.00	25.01
atom	2102	N	SER	269	47.609	-1.402	-5.709	1.00	25.69
atom	2103	CA	SER	269	49.019	-1.182	-5.344	1.00	26.70
atom	2104	CB	SER	269	49.531	-2.304	-4.423	1.00	23.84
atom	2105	OG	SER	269	49.137	-3.591	-4.876	1.00	24.85
atom	2106	C	SER	269	49.941	-1.080	-6.570	1.00	27.41
atom	2107	O	SER	269	50.966	-0.383	-6.544	1.00	24.61
atom	2108	N	LYS	270	49.560	-1.759	-7.646	1.00	27.65
atom	2109	CA	LYS	270	50.350	-1.756	-8.877	1.00	34.24
atom	2110	CB	LYS	270	50.439	-3.172	-9.427	1.00	38.14
atom	2111	CG	LYS	270	49.904	-4.202	-8.453	1.00	41.52

	atom	2112	CD	LYS	270	50.995	-5.139	-7.996	1.00	39.96
	atom	2113	CE	LYS	270	50.755	-6.511	-8.584	1.00	41.32
	atom	2114	NZ	LYS	270	49.453	-6.575	-9.308	1.00	43.81
	atom	2115	C	LYS	270	49.826	-0.827	-9.965	1.00	32.73
	atom	2116	O	LYS	270	49.728	-1.225	-11.122	1.00	32.11
	atom	2117	N	GLY	271	49.483	0.400	-9.569	1.00	32.07
	atom	2118	CA	GLY	271	48.991	1.414	-10.486	1.00	27.34
	atom	2119	C	GLY	271	47.811	1.148	-11.414	1.00	26.74
	atom	2120	O	GLY	271	47.401	2.070	-12.131	1.00	29.62
	atom	2121	N	GLN	272	47.266	-0.065	-11.434	1.00	16.78
	atom	2122	CA	GLN	272	46.130	-0.367	-12.298	1.00	22.50
	atom	2123	CB	GLN	272	46.006	-1.879	-12.461	1.00	25.20
	atom	2124	CG	GLN	272	45.118	-2.350	-13.607	1.00	28.05
	atom	2125	CD	GLN	272	45.018	-3.871	-13.633	1.00	32.35
	atom	2126	OE1	GLN	272	44.301	-4.474	-14.450	1.00	33.79
	atom	2127	NE2	GLN	272	45.741	-4.500	-12.724	1.00	31.21
	atom	2128	C	GLN	272	44.817	0.220	-11.742	1.00	27.23
	atom	2129	O	GLN	272	44.737	0.578	-10.560	1.00	29.76
	atom	2130	N	ASN	273	43.786	0.316	-12.586	1.00	26.20
	atom	2131	CA	ASN	273	42.499	0.884	-12.162	1.00	23.35
	atom	2132	CB	ASN	273	42.012	1.888	-13.211	1.00	30.32
	atom	2133	CG	ASN	273	40.898	2.782	-12.692	1.00	38.52
	atom	2134	OD1	ASN	273	39.724	2.603	-13.043	1.00	38.61
	atom	2135	ND2	ASN	273	41.258	3.748	-11.842	1.00	35.47
	atom	2136	C	ASN	273	41.450	-0.196	-11.913	1.00	23.09
	atom	2137	O	ASN	273	41.161	-1.012	-12.788	1.00	25.78
	atom	2138	N	CYS	274	40.859	-0.186	-10.724	1.00	23.19
	atom	2139	CA	CYS	274	39.897	-1.224	-10.330	1.00	25.74
	atom	2140	CB	CYS	274	40.167	-1.645	-8.878	1.00	24.20
	atom	2141	SG	CYS	274	41.736	-2.465	-8.623	1.00	32.90
	atom	2142	C	CYS	274	38.408	-0.941	-10.453	1.00	26.08
	atom	2143	O	CYS	274	37.586	-1.876	-10.466	1.00	28.31
	atom	2144	N	GLY	275	38.050	0.335	-10.517	1.00	23.19
	atom	2145	CA	GLY	275	36.646	0.672	-10.599	1.00	16.16
	atom	2146	C	GLY	275	36.427	2.072	-10.091	1.00	17.69
	atom	2147	O	GLY	275	37.376	2.835	-9.931	1.00	19.74

atom	2148	N	TYR	276	35.173	2.416	-9.835	1.00	19.21
atom	2149	CA	TYR	276	34.836	3.739	-9.355	1.00	16.79
atom	2150	CB	TYR	276	34.070	4.493	-10.431	1.00	17.22
atom	2151	CG	TYR	276	34.243	5.978	-10.351	1.00	19.00
atom	2152	CD1	TYR	276	35.434	6.571	-10.743	1.00	22.14
atom	2153	CE1	TYR	276	35.615	7.941	-10.648	1.00	19.36
atom	2154	CD2	TYR	276	33.226	6.798	-9.852	1.00	14.77
atom	2155	CE2	TYR	276	33.397	8.170	-9.754	1.00	10.07
atom	2156	CZ	TYR	276	34.597	8.732	-10.155	1.00	16.49
atom	2157	OH	TYR	276	34.787	10.097	-10.115	1.00	22.80
atom	2158	C	TYR	276	34.011	3.693	-8.076	1.00	22.07
atom	2159	O	TYR	276	33.140	2.816	-7.904	1.00	16.49
atom	2160	N	ARG	277	34.286	4.661	-7.193	1.00	22.20
atom	2161	CA	ARG	277	33.605	4.779	-5.896	1.00	19.05
atom	2162	CB	ARG	277	34.646	4.965	-4.796	1.00	16.38
atom	2163	CG	ARG	277	34.065	5.125	-3.422	1.00	13.13
atom	2164	CD	ARG	277	35.184	5.349	-2.433	1.00	12.73
atom	2165	NE	ARG	277	35.316	6.761	-2.171	1.00	10.46
atom	2166	CZ	ARG	277	36.252	7.522	-2.699	1.00	13.10
atom	2167	NH1	ARG	277	37.155	6.999	-3.524	1.00	19.62
atom	2168	NH2	ARG	277	36.262	8.811	-2.428	1.00	11.60
atom	2169	C	ARG	277	32.587	5.927	-5.812	1.00	16.53
atom	2170	O	ARG	277	32.871	7.046	-6.231	1.00	13.19
atom	2171	N	ARG	278	31.412	5.643	-5.259	1.00	11.39
atom	2172	CA	ARG	278	30.382	6.666	-5.109	1.00	17.01
atom	2173	CB	ARG	278	29.261	6.436	-6.126	1.00	15.88
atom	2174	CG	ARG	278	29.617	6.850	-7.545	1.00	25.88
atom	2175	CD	ARG	278	28.637	6.259	-8.557	1.00	31.56
atom	2176	NE	ARG	278	28.891	6.737	-9.914	1.00	38.90
atom	2177	CZ	ARG	278	29.297	5.959	-10.918	1.00	46.20
atom	2178	NH1	ARG	278	29.498	4.657	-10.721	1.00	40.83
atom	2179	NH2	ARG	278	29.501	6.485	-12.124	1.00	44.92
atom	2180	C	ARG	278	29.802	6.709	-3.678	1.00	18.33
atom	2181	O	ARG	278	28.791	7.363	-3.413	1.00	14.86
atom	2182	N	CYS	279	30.443	5.988	-2.763	1.00	18.74
atom	2183	CA	CYS	279	30.013	5.951	-1.372	1.00	20.34

	atom	2184	CB	CYS	279	29.734	4.521	-0.910	1.00	13.54
	atom	2185	SG	CYS	279	31.032	3.386	-1.400	1.00	11.81
	atom	2186	C	CYS	279	31.158	6.530	-0.580	1.00	19.14
	atom	2187	O	CYS	279	31.995	7.229	-1.131	1.00	18.85
	atom	2188	N	ARG	280	31.204	6.230	0.708	1.00	20.55
	atom	2189	CA	ARG	280	32.266	6.765	1.551	1.00	19.72
	atom	2190	CB	ARG	280	31.760	6.890	2.994	1.00	17.16
	atom	2191	CG	ARG	280	32.765	6.504	4.033	1.00	18.71
	atom	2192	CD	ARG	280	32.721	7.441	5.217	1.00	21.86
	atom	2193	NE	ARG	280	32.610	8.844	4.846	1.00	12.51
	atom	2194	CZ	ARG	280	31.542	9.602	5.089	1.00	16.04
	atom	2195	NH1	ARG	280	30.483	9.096	5.697	1.00	10.02
	atom	2196	NH2	ARG	280	31.543	10.884	4.738	1.00	16.85
	atom	2197	C	ARG	280	33.534	5.924	1.507	1.00	17.65
	atom	2198	O	ARG	280	33.477	4.698	1.508	1.00	16.85
	atom	2199	N	ALA	281	34.673	6.602	1.461	1.00	19.88
	atom	2200	CA	ALA	281	35.978	5.943	1.465	1.00	20.82
	atom	2201	CB	ALA	281	37.025	6.809	0.748	1.00	17.70
	atom	2202	C	ALA	281	36.359	5.788	2.933	1.00	20.37
	atom	2203	O	ALA	281	36.121	6.686	3.730	1.00	17.90
	atom	2204	N	SER	282	36.964	4.658	3.275	1.00	23.63
	atom	2205	CA	SER	282	37.369	4.377	4.643	1.00	24.68
	atom	2206	CB	SER	282	37.569	2.883	4.808	1.00	28.10
	atom	2207	OG	SER	282	38.795	2.513	4.200	1.00	34.10
	atom	2208	C	SER	282	38.640	5.071	5.121	1.00	22.98
	atom	2209	O	SER	282	38.854	5.217	6.322	1.00	24.18
	atom	2210	N	GLY	283	39.491	5.492	4.200	1.00	22.59
	atom	2211	CA	GLY	283	40.740	6.108	4.625	1.00	15.51
	atom	2212	C	GLY	283	40.877	7.601	4.545	1.00	14.39
	atom	2213	O	GLY	283	41.999	8.113	4.428	1.00	19.94
	atom	2214	N	VAL	284	39.763	8.316	4.625	1.00	12.87
	atom	2215	CA	VAL	284	39.817	9.774	4.547	1.00	16.46
	atom	2216	CB	VAL	284	38.707	10.334	3.625	1.00	18.23
	atom	2217	CG1	VAL	284	39.306	10.638	2.256	1.00	15.09
	atom	2218	CG2	VAL	284	37.548	9.344	3.526	1.00	15.13
	atom	2219	C	VAL	284	39.698	10.370	5.935	1.00	16.16

atom	2220	O	VAL	284	39.365	9.654	6.873	1.00	21.25
atom	2221	N	LEU	285	39.976	11.662	6.085	1.00	14.54
atom	2222	CA	LEU	285	39.925	12.283	7.419	1.00	18.17
atom	2223	CB	LEU	285	40.591	13.671	7.397	1.00	11.77
atom	2224	CG	LEU	285	40.737	14.212	8.834	1.00	14.87
atom	2225	CD1	LEU	285	41.712	13.349	9.575	1.00	11.35
atom	2226	CD2	LEU	285	41.217	15.638	8.873	1.00	11.98
atom	2227	C	LEU	285	38.514	12.438	8.003	1.00	18.78
atom	2228	O	LEU	285	38.289	12.278	9.209	1.00	19.14
atom	2229	N	THR	286	37.579	12.769	7.122	1.00	16.92
atom	2230	CA	THR	286	36.196	13.021	7.463	1.00	8.41
atom	2231	CB	THR	286	35.523	13.887	6.360	1.00	11.85
atom	2232	OG1	THR	286	35.864	13.329	5.089	1.00	11.25
atom	2233	CG2	THR	286	35.980	15.366	6.408	1.00	3.47
atom	2234	C	THR	286	35.373	11.752	7.600	1.00	8.58
atom	2235	O	THR	286	34.179	11.830	7.885	1.00	6.30
atom	2236	N	THR	287	35.974	10.578	7.437	1.00	9.98
atom	2237	CA	THR	287	35.132	9.384	7.502	1.00	14.51
atom	2238	CB	THR	287	35.869	8.126	6.964	1.00	11.97
atom	2239	OG1	THR	287	35.300	6.948	7.537	1.00	16.98
atom	2240	CG2	THR	287	37.317	8.174	7.251	1.00	16.02
atom	2241	C	THR	287	34.472	9.109	8.858	1.00	14.94
atom	2242	O	THR	287	33.288	8.733	8.922	1.00	17.04
atom	2243	N	SER	288	35.214	9.323	9.937	1.00	15.88
atom	2244	CA	SER	288	34.672	9.123	11.291	1.00	15.93
atom	2245	CB	SER	288	35.797	9.242	12.319	1.00	14.91
atom	2246	OG	SER	288	35.262	9.346	13.595	1.00	17.41
atom	2247	C	SER	288	33.593	10.172	11.602	1.00	13.04
atom	2248	O	SER	288	32.439	9.844	11.871	1.00	12.73
atom	2249	N	CYS	289	33.983	11.438	11.559	1.00	7.29
atom	2250	CA	CYS	289	33.046	12.511	11.836	1.00	10.66
atom	2251	CB	CYS	289	33.793	13.851	11.834	1.00	5.96
atom	2252	SG	CYS	289	32.783	15.279	11.493	1.00	22.59
atom	2253	C	CYS	289	31.863	12.527	10.846	1.00	12.55
atom	2254	O	CYS	289	30.734	12.875	11.212	1.00	14.62
atom	2255	N	GLY	290	32.127	12.168	9.591	1.00	14.52

	atom	2256	CA	GLY	290	31.074	12.120	8.590	1.00	9.51
	atom	2257	C	GLY	290	30.057	11.040	8.936	1.00	14.36
	atom	2258	O	GLY	290	28.852	11.313	9.001	1.00	13.85
	atom	2259	N	ASN	291	30.524	9.813	9.168	1.00	10.21
	atom	2260	CA	ASN	291	29.611	8.721	9.508	1.00	13.14
	atom	2261	CB	ASN	291	30.372	7.399	9.663	1.00	12.39
	atom	2262	CG	ASN	291	30.742	6.787	8.343	1.00	16.70
	atom	2263	OD1	ASN	291	30.444	7.334	7.291	1.00	19.76
	atom	2264	ND2	ASN	291	31.398	5.645	8.388	1.00	14.60
	atom	2265	C	ASN	291	28.840	9.007	10.803	1.00	13.64
	atom	2266	O	ASN	291	27.672	8.669	10.912	1.00	16.48
	atom	2267	N	THR	292	29.498	9.615	11.787	1.00	13.64
	atom	2268	CA	THR	292	28.829	9.926	13.033	1.00	11.88
	atom	2269	CB	THR	292	29.814	10.420	14.092	1.00	11.39
	atom	2270	OG1	THR	292	30.878	9.460	14.247	1.00	9.50
	atom	2271	CG2	THR	292	29.099	10.572	15.406	1.00	2.48
	atom	2272	C	THR	292	27.731	10.956	12.834	1.00	12.72
	atom	2273	O	THR	292	26.619	10.785	13.354	1.00	9.10
	atom	2274	N	LEU	293	28.030	11.997	12.060	1.00	7.16
	atom	2275	CA	LEU	293	27.045	13.036	11.767	1.00	10.97
	atom	2276	CB	LEU	293	27.704	14.195	11.018	1.00	8.15
	atom	2277	CG	LEU	293	28.403	15.187	11.956	1.00	18.61
	atom	2278	CD1	LEU	293	29.564	15.857	11.252	1.00	14.67
	atom	2279	CD2	LEU	293	27.400	16.228	12.448	1.00	18.24
	atom	2280	C	LEU	293	25.879	12.498	10.927	1.00	11.98
	atom	2281	O	LEU	293	24.693	12.837	11.143	1.00	10.31
	atom	2282	N	THR	294	26.218	11.644	9.973	1.00	9.34
	atom	2283	CA	THR	294	25.218	11.088	9.078	1.00	13.14
	atom	2284	CB	THR	294	25.932	10.501	7.830	1.00	17.76
	atom	2285	OG1	THR	294	26.584	11.576	7.136	1.00	9.54
	atom	2286	CG2	THR	294	24.952	9.770	6.888	1.00	13.10
	atom	2287	C	THR	294	24.325	10.051	9.775	1.00	13.78
	atom	2288	O	THR	294	23.103	10.068	9.612	1.00	12.50
	atom	2289	N	CYS	295	24.927	9.183	10.586	1.00	12.96
	atom	2290	CA	CYS	295	24.158	8.164	11.297	1.00	15.53
	atom	2291	CB	CYS	295	25.083	7.216	12.054	1.00	14.80

atom	2292	SG	CYS	295	24.228	5.909	12.939	1.00	21.83
atom	2293	C	CYS	295	23.237	8.852	12.279	1.00	15.64
atom	2294	O	CYS	295	22.123	8.424	12.506	1.00	19.96
atom	2295	N	TYR	296	23.714	9.945	12.846	1.00	16.53
atom	2296	CA	TYR	296	22.944	10.688	13.808	1.00	13.09
atom	2297	CB	TYR	296	23.831	11.751	14.460	1.00	19.53
atom	2298	CG	TYR	296	23.101	12.750	15.335	1.00	23.83
atom	2299	CD1	TYR	296	22.977	12.549	16.705	1.00	20.52
atom	2300	CE1	TYR	296	22.251	13.432	17.495	1.00	23.16
atom	2301	CD2	TYR	296	22.485	13.865	14.774	1.00	22.40
atom	2302	CE2	TYR	296	21.763	14.742	15.543	1.00	25.16
atom	2303	CZ	TYR	296	21.639	14.525	16.901	1.00	26.73
atom	2304	OH	TYR	296	20.878	15.398	17.644	1.00	29.21
atom	2305	C	TYR	296	21.727	11.326	13.175	1.00	13.13
atom	2306	O	TYR	296	20.627	11.241	13.705	1.00	19.26
atom	2307	N	LEU	297	21.930	11.965	12.037	1.00	15.33
atom	2308	CA	LEU	297	20.861	12.651	11.329	1.00	8.06
atom	2309	CB	LEU	297	21.478	13.414	10.167	1.00	4.00
atom	2310	CG	LEU	297	20.657	13.832	8.973	1.00	5.36
atom	2311	CD1	LEU	297	19.567	14.751	9.449	1.00	2.30
atom	2312	CD2	LEU	297	21.600	14.508	7.935	1.00	2.00
atom	2313	C	LEU	297	19.795	11.679	10.854	1.00	10.56
atom	2314	O	LEU	297	18.602	11.927	10.989	1.00	8.08
atom	2315	N	LYS	298	20.224	10.554	10.306	1.00	9.28
atom	2316	CA	LYS	298	19.259	9.584	9.843	1.00	14.54
atom	2317	CB	LYS	298	19.959	8.524	8.975	1.00	14.39
atom	2318	CG	LYS	298	20.284	9.041	7.564	1.00	14.80
atom	2319	CD	LYS	298	21.047	8.018	6.741	1.00	9.15
atom	2320	CE	LYS	298	21.993	8.691	5.772	1.00	6.39
atom	2321	NZ	LYS	298	22.398	7.721	4.710	1.00	12.57
atom	2322	C	LYS	298	18.526	8.926	11.022	1.00	17.93
atom	2323	O	LYS	298	17.302	8.706	10.976	1.00	14.55
atom	2324	N	ALA	299	19.275	8.622	12.081	1.00	13.25
atom	2325	CA	ALA	299	18.682	7.971	13.224	1.00	15.80
atom	2326	CB	ALA	299	19.760	7.440	14.140	1.00	11.84
atom	2327	C	ALA	299	17.746	8.923	13.968	1.00	18.33

atom	2328	O	ALA	299	16.701	8.507	14.476	1.00	17.79
atom	2329	N	SER	300	18.098	10.203	14.005	1.00	18.37
atom	2330	CA	SER	300	17.250	11.173	14.693	1.00	19.72
atom	2331	CB	SER	300	17.917	12.537	14.736	1.00	15.36
atom	2332	OG	SER	300	18.855	12.587	15.777	1.00	20.47
atom	2333	C	SER	300	15.917	11.296	13.973	1.00	17.03
atom	2334	O	SER	300	14.853	11.152	14.579	1.00	15.98
atom	2335	N	ALA	301	15.997	11.565	12.673	1.00	16.11
atom	2336	CA	ALA	301	14.818	11.703	11.831	1.00	12.11
atom	2337	CB	ALA	301	15.234	12.062	10.399	1.00	14.67
atom	2338	C	ALA	301	14.048	10.394	11.859	1.00	5.18
atom	2339	O	ALA	301	12.829	10.375	11.892	1.00	7.90
atom	2340	N	ALA	302	14.762	9.285	11.869	1.00	8.95
atom	2341	CA	ALA	302	14.083	7.997	11.923	1.00	10.58
atom	2342	CB	ALA	302	15.068	6.887	11.656	1.00	2.00
atom	2343	C	ALA	302	13.351	7.764	13.276	1.00	14.11
atom	2344	O	ALA	302	12.315	7.102	13.310	1.00	9.62
atom	2345	N	CYS	303	13.885	8.308	14.373	1.00	18.06
atom	2346	CA	CYS	303	13.263	8.163	15.705	1.00	23.37
atom	2347	CB	CYS	303	14.190	8.725	16.803	1.00	21.74
atom	2348	SG	CYS	303	15.531	7.631	17.351	1.00	27.25
atom	2349	C	CYS	303	11.917	8.925	15.742	1.00	26.18
atom	2350	O	CYS	303	10.903	8.446	16.285	1.00	23.74
atom	2351	N	ARG	304	11.929	10.122	15.161	1.00	22.67
atom	2352	CA	ARG	304	10.747	10.940	15.097	1.00	22.19
atom	2353	CB	ARG	304	11.099	12.306	14.503	1.00	25.32
atom	2354	CG	ARG	304	12.197	13.063	15.254	1.00	16.91
atom	2355	CD	ARG	304	12.192	14.548	14.889	1.00	15.19
atom	2356	NE	ARG	304	13.299	15.295	15.499	1.00	19.62
atom	2357	CZ	ARG	304	13.467	16.616	15.392	1.00	22.51
atom	2358	NH1	ARG	304	12.595	17.339	14.690	1.00	23.10
atom	2359	NH2	ARG	304	14.483	17.228	16.012	1.00	11.90
atom	2360	C	ARG	304	9.677	10.226	14.256	1.00	26.83
atom	2361	O	ARG	304	8.476	10.394	14.489	1.00	25.97
atom	2362	N	ALA	305	10.106	9.419	13.290	1.00	30.84
atom	2363	CA	ALA	305	9.158	8.683	12.449	1.00	34.55

atom	2364	CB	ALA	305	9.898	7.809	11.444	1.00	35.65
atom	2365	C	ALA	305	8.225	7.821	13.299	1.00	37.13
atom	2366	O	ALA	305	7.190	7.358	12.815	1.00	37.73
atom	2367	N	ALA	306	8.592	7.610	14.562	1.00	38.22
atom	2368	CA	ALA	306	7.762	6.824	15.474	1.00	36.67
atom	2369	CB	ALA	306	8.310	5.422	15.583	1.00	35.11
atom	2370	C	ALA	306	7.692	7.468	16.860	1.00	38.80
atom	2371	O	ALA	306	6.844	8.320	17.132	1.00	38.28
atom	2372	N	LYS	307	8.608	7.040	17.720	1.00	41.45
atom	2373	CA	LYS	307	8.740	7.491	19.096	1.00	42.81
atom	2374	CB	LYS	307	10.214	7.458	19.503	1.00	40.40
atom	2375	CG	LYS	307	10.729	6.087	19.916	1.00	37.86
atom	2376	CD	LYS	307	10.575	5.048	18.831	1.00	37.54
atom	2377	CE	LYS	307	11.918	4.432	18.481	1.00	37.85
atom	2378	NZ	LYS	307	12.924	5.507	18.258	1.00	35.80
atom	2379	C	LYS	307	8.167	8.865	19.449	1.00	49.60
atom	2380	O	LYS	307	8.788	9.907	19.188	1.00	46.97
atom	2381	N	LEU	308	6.982	8.842	20.066	1.00	51.53
atom	2382	CA	LEU	308	6.279	10.039	20.524	1.00	51.53
atom	2383	CB	LEU	308	4.758	9.842	20.389	1.00	52.02
atom	2384	CG	LEU	308	4.157	8.437	20.605	1.00	51.76
atom	2385	CD1	LEU	308	3.708	8.288	22.068	1.00	47.91
atom	2386	CD2	LEU	308	2.983	8.206	19.643	1.00	43.18
atom	2387	C	LEU	308	6.663	10.183	21.998	1.00	54.77
atom	2388	O	LEU	308	5.997	10.874	22.786	1.00	57.44
atom	2389	N	GLN	309	7.766	9.517	22.338	1.00	56.72
atom	2390	CA	GLN	309	8.312	9.459	23.693	1.00	53.19
atom	2391	CB	GLN	309	8.499	8.002	24.077	1.00	52.08
atom	2392	CG	GLN	309	9.172	7.229	22.970	1.00	47.86
atom	2393	CD	GLN	309	8.527	5.897	22.742	1.00	48.89
atom	2394	OE1	GLN	309	8.830	5.208	21.775	1.00	51.59
atom	2395	NE2	GLN	309	7.627	5.513	23.642	1.00	55.53
atom	2396	C	GLN	309	9.645	10.190	23.888	1.00	52.39
atom	2397	O	GLN	309	9.840	11.303	23.383	1.00	53.77
atom	2398	N	ASP	310	10.573	9.545	24.599	1.00	46.73
atom	2399	CA	ASP	310	11.850	10.182	24.914	1.00	46.17

atom	2400	CB	ASP	310	11.877	10.525	26.404	1.00	50.62
atom	2401	CG	ASP	310	10.471	10.620	27.000	1.00	54.61
atom	2402	OD1	ASP	310	9.975	9.590	27.507	1.00	57.26
atom	2403	OD2	ASP	310	9.857	11.716	26.954	1.00	52.46
atom	2404	C	ASP	310	13.081	9.382	24.538	1.00	43.56
atom	2405	O	ASP	310	13.580	8.537	25.297	1.00	34.86
atom	2406	N	CYS	311	13.571	9.683	23.342	1.00	41.82
atom	2407	CA	CYS	311	14.726	9.016	22.783	1.00	36.02
atom	2408	CB	CYS	311	14.703	9.126	21.269	1.00	35.10
atom	2409	SG	CYS	311	13.643	7.931	20.531	1.00	41.50
atom	2410	C	CYS	311	16.001	9.612	23.292	1.00	32.40
atom	2411	O	CYS	311	16.050	10.780	23.655	1.00	32.96
atom	2412	N	THR	312	17.032	8.783	23.335	1.00	29.68
atom	2413	CA	THR	312	18.348	9.221	23.757	1.00	24.81
atom	2414	CB	THR	312	18.551	9.120	25.297	1.00	23.09
atom	2415	OG1	THR	312	17.974	10.268	25.917	1.00	20.96
atom	2416	CG2	THR	312	20.039	9.103	25.647	1.00	7.30
atom	2417	C	THR	312	19.286	8.291	23.048	1.00	19.93
atom	2418	O	THR	312	19.215	7.071	23.208	1.00	21.00
atom	2419	N	MET	313	20.146	8.863	22.225	1.00	21.26
atom	2420	CA	MET	313	21.087	8.039	21.502	1.00	19.10
atom	2421	CB	MET	313	20.845	8.108	20.003	1.00	27.05
atom	2422	CG	MET	313	20.425	9.437	19.460	1.00	32.49
atom	2423	SD	MET	313	19.755	9.147	17.816	1.00	41.09
atom	2424	CE	MET	313	18.946	7.570	18.055	1.00	41.67
atom	2425	C	MET	313	22.522	8.371	21.775	1.00	15.03
atom	2426	O	MET	313	22.862	9.456	22.237	1.00	9.15
atom	2427	N	LEU	314	23.360	7.394	21.477	1.00	14.59
atom	2428	CA	LEU	314	24.786	7.512	21.649	1.00	13.18
atom	2429	CB	LEU	314	25.237	6.561	22.753	1.00	16.64
atom	2430	CG	LEU	314	26.661	6.691	23.270	1.00	12.33
atom	2431	CD1	LEU	314	26.848	8.047	23.960	1.00	17.77
atom	2432	CD2	LEU	314	26.894	5.591	24.223	1.00	12.90
atom	2433	C	LEU	314	25.239	7.028	20.299	1.00	14.13
atom	2434	O	LEU	314	24.850	5.949	19.880	1.00	14.97
atom	2435	N	VAL	315	26.035	7.834	19.611	1.00	14.46

	atom	2436	CA	VAL	315	26.490	7.507	18.260	1.00	8.47
	atom	2437	CB	VAL	315	25.917	8.539	17.235	1.00	9.94
	atom	2438	CG1	VAL	315	26.126	8.042	15.792	1.00	6.93
	atom	2439	CG2	VAL	315	24.448	8.787	17.529	1.00	7.37
	atom	2440	C	VAL	315	28.000	7.504	18.113	1.00	8.16
	atom	2441	O	VAL	315	28.666	8.471	18.449	1.00	11.71
	atom	2442	N	ASN	316	28.534	6.416	17.597	1.00	13.18
	atom	2443	CA	ASN	316	29.976	6.296	17.363	1.00	16.47
	atom	2444	CB	ASN	316	30.589	5.250	18.304	1.00	20.03
	atom	2445	CG	ASN	316	30.712	5.740	19.732	1.00	18.37
	atom	2446	OD1	ASN	316	31.819	5.855	20.260	1.00	24.84
	atom	2447	ND2	ASN	316	29.581	6.024	20.364	1.00	11.13
	atom	2448	C	ASN	316	30.130	5.846	15.898	1.00	15.78
	atom	2449	O	ASN	316	30.014	4.652	15.596	1.00	12.76
	atom	2450	N	GLY	317	30.383	6.805	15.002	1.00	15.43
	atom	2451	CA	GLY	317	30.492	6.486	13.587	1.00	16.69
	atom	2452	C	GLY	317	29.186	5.824	13.155	1.00	19.29
	atom	2453	O	GLY	317	28.119	6.441	13.232	1.00	13.28
	atom	2454	N	ASP	318	29.262	4.558	12.736	1.00	20.60
	atom	2455	CA	ASP	318	28.080	3.798	12.313	1.00	22.17
	atom	2456	CB	ASP	318	28.486	2.767	11.281	1.00	23.30
	atom	2457	CG	ASP	318	29.724	2.027	11.684	1.00	25.41
	atom	2458	OD1	ASP	318	30.744	2.692	11.980	1.00	27.38
	atom	2459	OD2	ASP	318	29.676	0.788	11.710	1.00	25.90
	atom	2460	C	ASP	318	27.403	3.067	13.479	1.00	24.22
	atom	2461	O	ASP	318	26.245	2.626	13.380	1.00	20.11
	atom	2462	N	ASP	319	28.135	2.899	14.574	1.00	25.94
	atom	2463	CA	ASP	319	27.559	2.217	15.730	1.00	26.01
	atom	2464	CB	ASP	319	28.654	1.768	16.680	1.00	26.27
	atom	2465	CG	ASP	319	28.826	0.275	16.677	1.00	29.65
	atom	2466	OD1	ASP	319	29.973	-0.184	16.521	1.00	35.30
	atom	2467	OD2	ASP	319	27.813	-0.439	16.828	1.00	30.47
	atom	2468	C	ASP	319	26.552	3.110	16.452	1.00	20.07
	atom	2469	O	ASP	319	26.826	4.269	16.766	1.00	15.33
	atom	2470	N	LEU	320	25.376	2.567	16.697	1.00	16.66
	atom	2471	CA	LEU	320	24.341	3.341	17.350	1.00	17.93

atom	2472	CB	LEU	320	23.428	3.994	16.294	1.00	14.80
atom	2473	CG	LEU	320	22.126	4.657	16.786	1.00	12.07
atom	2474	CD1	LEU	320	22.214	6.175	16.732	1.00	12.14
atom	2475	CD2	LEU	320	20.993	4.180	15.980	1.00	14.40
atom	2476	C	LEU	320	23.484	2.538	18.314	1.00	18.43
atom	2477	O	LEU	320	23.097	1.410	18.042	1.00	23.21
atom	2478	N	VAL	321	23.211	3.135	19.460	1.00	18.50
atom	2479	CA	VAL	321	22.327	2.539	20.441	1.00	21.88
atom	2480	CB	VAL	321	23.097	1.966	21.662	1.00	20.42
atom	2481	CG1	VAL	321	24.196	2.895	22.062	1.00	17.51
atom	2482	CG2	VAL	321	22.136	1.735	22.817	1.00	22.27
atom	2483	C	VAL	321	21.413	3.683	20.878	1.00	20.73
atom	2484	O	VAL	321	21.826	4.844	20.897	1.00	21.92
atom	2485	N	VAL	322	20.162	3.371	21.181	1.00	22.82
atom	2486	CA	VAL	322	19.230	4.400	21.623	1.00	20.84
atom	2487	CB	VAL	322	18.343	4.957	20.448	1.00	18.24
atom	2488	CG1	VAL	322	18.628	4.215	19.149	1.00	22.10
atom	2489	CG2	VAL	322	16.880	4.885	20.810	1.00	6.40
atom	2490	C	VAL	322	18.353	3.819	22.714	1.00	23.90
atom	2491	O	VAL	322	17.873	2.685	22.608	1.00	22.28
atom	2492	N	ILE	323	18.176	4.585	23.786	1.00	24.77
atom	2493	CA	ILE	323	17.349	4.134	24.893	1.00	25.24
atom	2494	CB	ILE	323	18.158	4.137	26.190	1.00	22.50
atom	2495	CG2	ILE	323	17.259	3.829	27.384	1.00	23.14
atom	2496	CG1	ILE	323	19.261	3.095	26.066	1.00	16.23
atom	2497	CD1	ILE	323	20.397	3.297	27.008	1.00	15.90
atom	2498	C	ILE	323	16.131	5.042	24.994	1.00	25.29
atom	2499	O	ILE	323	16.254	6.266	25.033	1.00	25.71
atom	2500	N	CYS	324	14.955	4.434	25.021	1.00	23.65
atom	2501	CA	CYS	324	13.719	5.201	25.074	1.00	28.54
atom	2502	CB	CYS	324	13.120	5.298	23.668	1.00	22.91
atom	2503	SG	CYS	324	12.651	3.689	23.036	1.00	24.99
atom	2504	C	CYS	324	12.698	4.560	26.004	1.00	32.49
atom	2505	O	CYS	324	12.954	3.502	26.611	1.00	36.12
atom	2506	N	GLU	325	11.541	5.212	26.117	1.00	34.49
atom	2507	CA	GLU	325	10.454	4.697	26.942	1.00	34.97

atom	2508	CB	GLU	325	9.367	5.759	27.101	1.00	33.51
atom	2509	CG	GLU	325	9.577	6.705	28.273	1.00	39.83
atom	2510	CD	GLU	325	10.005	6.005	29.565	1.00	40.86
atom	2511	OE1	GLU	325	9.637	4.828	29.786	1.00	41.53
atom	2512	OE2	GLU	325	10.716	6.644	30.367	1.00	41.72
atom	2513	C	GLU	325	9.863	3.470	26.243	1.00	33.00
atom	2514	O	GLU	325	10.045	3.291	25.038	1.00	33.16
atom	2515	N	SER	326	9.177	2.608	26.981	1.00	29.74
atom	2516	CA	SER	326	8.566	1.462	26.332	1.00	27.88
atom	2517	CB	SER	326	8.895	0.154	27.045	1.00	29.60
atom	2518	OG	SER	326	8.592	-0.968	26.221	1.00	27.55
atom	2519	C	SER	326	7.082	1.687	26.359	1.00	29.75
atom	2520	O	SER	326	6.580	2.500	27.130	1.00	26.24
atom	2521	N	ALA	327	6.382	0.983	25.483	1.00	33.65
atom	2522	CA	ALA	327	4.937	1.093	25.404	1.00	32.64
atom	2523	CB	ALA	327	4.533	1.949	24.224	1.00	35.74
atom	2524	C	ALA	327	4.455	-0.314	25.212	1.00	35.26
atom	2525	O	ALA	327	3.405	-0.541	24.613	1.00	36.42
atom	2526	N	GLY	328	5.250	-1.259	25.715	1.00	35.74
atom	2527	CA	GLY	328	4.906	-2.658	25.604	1.00	35.12
atom	2528	C	GLY	328	5.739	-3.370	24.563	1.00	37.03
atom	2529	O	GLY	328	6.267	-2.751	23.648	1.00	39.73
atom	2530	N	THR	329	5.828	-4.686	24.705	1.00	35.68
atom	2531	CA	THR	329	6.592	-5.553	23.816	1.00	35.67
atom	2532	CB	THR	329	6.517	-6.994	24.334	1.00	31.01
atom	2533	OG1	THR	329	6.992	-7.020	25.679	1.00	30.45
atom	2534	CG2	THR	329	7.348	-7.935	23.486	1.00	35.07
atom	2535	C	THR	329	6.188	-5.555	22.338	1.00	41.30
atom	2536	O	THR	329	6.985	-5.217	21.459	1.00	42.33
atom	2537	N	GLN	330	4.954	-5.964	22.068	1.00	45.00
atom	2538	CA	GLN	330	4.464	-6.047	20.705	1.00	45.98
atom	2539	CB	GLN	330	3.072	-6.675	20.703	1.00	50.57
atom	2540	CG	GLN	330	2.859	-7.708	19.613	1.00	53.88
atom	2541	CD	GLN	330	1.764	-8.697	19.954	1.00	55.97
atom	2542	OE1	GLN	330	2.015	-9.713	20.598	1.00	58.15
atom	2543	NE2	GLN	330	0.541	-8.404	19.524	1.00	58.64

atom	2544	C	GLN	330	4.417	-4.690	20.017	1.00	46.57
atom	2545	O	GLN	330	4.625	-4.588	18.809	1.00	45.26
atom	2546	N	GLU	331	4.138	-3.648	20.785	1.00	42.44
atom	2547	CA	GLU	331	4.054	-2.318	20.216	1.00	42.19
atom	2548	CB	GLU	331	3.307	-1.414	21.193	1.00	45.19
atom	2549	CG	GLU	331	2.738	-2.173	22.420	1.00	53.99
atom	2550	CD	GLU	331	1.499	-3.035	22.106	1.00	61.39
atom	2551	OE1	GLU	331	1.620	-4.022	21.340	1.00	62.11
atom	2552	OE2	GLU	331	0.401	-2.733	22.631	1.00	60.82
atom	2553	C	GLU	331	5.468	-1.807	19.926	1.00	42.42
atom	2554	O	GLU	331	5.746	-1.304	18.838	1.00	41.63
atom	2555	N	ASP	332	6.361	-1.970	20.899	1.00	40.40
atom	2556	CA	ASP	332	7.759	-1.554	20.779	1.00	39.72
atom	2557	CB	ASP	332	8.522	-1.903	22.066	1.00	43.46
atom	2558	CG	ASP	332	8.576	-0.750	23.070	1.00	44.40
atom	2559	OD1	ASP	332	9.624	-0.613	23.737	1.00	50.21
atom	2560	OD2	ASP	332	7.587	0.005	23.214	1.00	42.70
atom	2561	C	ASP	332	8.455	-2.238	19.587	1.00	38.03
atom	2562	O	ASP	332	9.360	-1.669	18.973	1.00	35.13
atom	2563	N	ALA	333	8.036	-3.463	19.274	1.00	35.59
atom	2564	CA	ALA	333	8.606	-4.223	18.157	1.00	34.66
atom	2565	CB	ALA	333	8.080	-5.660	18.188	1.00	28.59
atom	2566	C	ALA	333	8.250	-3.559	16.818	1.00	35.39
atom	2567	O	ALA	333	9.096	-3.397	15.918	1.00	32.47
atom	2568	N	ALA	334	6.980	-3.194	16.701	1.00	32.90
atom	2569	CA	ALA	334	6.475	-2.528	15.522	1.00	35.01
atom	2570	CB	ALA	334	4.958	-2.387	15.614	1.00	30.49
atom	2571	C	ALA	334	7.132	-1.151	15.441	1.00	36.42
atom	2572	O	ALA	334	7.257	-0.580	14.360	1.00	38.09
atom	2573	N	SER	335	7.554	-0.622	16.588	1.00	35.49
atom	2574	CA	SER	335	8.197	0.685	16.624	1.00	33.47
atom	2575	CB	SER	335	8.376	1.156	18.066	1.00	35.80
atom	2576	OG	SER	335	7.166	1.715	18.558	1.00	44.77
atom	2577	C	SER	335	9.549	0.611	15.937	1.00	33.00
atom	2578	O	SER	335	9.923	1.509	15.186	1.00	31.79
atom	2579	N	LEU	336	10.278	-0.468	16.193	1.00	30.58

atom	2580	CA	LEU	336	11.580	-0.643	15.580	1.00	32.25
atom	2581	CB	LEU	336	12.355	-1.740	16.300	1.00	33.78
atom	2582	CG	LEU	336	13.103	-1.268	17.549	1.00	32.01
atom	2583	CD1	LEU	336	12.219	-0.378	18.402	1.00	19.15
atom	2584	CD2	LEU	336	13.556	-2.491	18.319	1.00	32.33
atom	2585	C	LEU	336	11.397	-0.989	14.111	1.00	33.05
atom	2586	O	LEU	336	12.301	-0.798	13.298	1.00	32.54
atom	2587	N	ARG	337	10.212	-1.500	13.785	1.00	34.57
atom	2588	CA	ARG	337	9.861	-1.840	12.415	1.00	33.94
atom	2589	CB	ARG	337	8.481	-2.502	12.376	1.00	40.01
atom	2590	CG	ARG	337	8.468	-3.887	11.748	1.00	50.31
atom	2591	CD	ARG	337	7.152	-4.156	11.006	1.00	60.06
atom	2592	NE	ARG	337	7.349	-4.414	9.573	1.00	64.64
atom	2593	CZ	ARG	337	6.370	-4.443	8.666	1.00	66.06
atom	2594	NH1	ARG	337	5.108	-4.228	9.027	1.00	65.93
atom	2595	NH2	ARG	337	6.653	-4.693	7.392	1.00	63.83
atom	2596	C	ARG	337	9.833	-0.524	11.628	1.00	31.50
atom	2597	O	ARG	337	10.527	-0.367	10.614	1.00	30.22
atom	2598	N	VAL	338	9.034	0.426	12.104	1.00	25.96
atom	2599	CA	VAL	338	8.942	1.725	11.446	1.00	23.74
atom	2600	CB	VAL	338	8.008	2.682	12.212	1.00	20.53
atom	2601	CG1	VAL	338	7.954	4.005	11.504	1.00	16.58
atom	2602	CG2	VAL	338	6.586	2.080	12.323	1.00	23.01
atom	2603	C	VAL	338	10.321	2.375	11.393	1.00	25.39
atom	2604	O	VAL	338	10.760	2.853	10.348	1.00	25.50
atom	2605	N	PHE	339	11.008	2.372	12.534	1.00	24.65
atom	2606	CA	PHE	339	12.323	2.985	12.643	1.00	19.60
atom	2607	CB	PHE	339	12.934	2.698	14.018	1.00	15.60
atom	2608	CG	PHE	339	14.325	3.191	14.164	1.00	3.47
atom	2609	CD1	PHE	339	14.569	4.487	14.582	1.00	9.45
atom	2610	CD2	PHE	339	15.390	2.374	13.849	1.00	4.97
atom	2611	CE1	PHE	339	15.859	4.965	14.685	1.00	5.74
atom	2612	CE2	PHE	339	16.685	2.830	13.941	1.00	3.08
atom	2613	CZ	PHE	339	16.927	4.126	14.360	1.00	5.97
atom	2614	C	PHE	339	13.232	2.480	11.534	1.00	18.70
atom	2615	O	PHE	339	13.866	3.267	10.845	1.00	12.55

atom	2616	N	THR	340	13.282	1.164	11.381	1.00	20.16
atom	2617	CA	THR	340	14.077	0.510	10.341	1.00	23.32
atom	2618	CB	THR	340	13.934	-1.028	10.463	1.00	23.80
atom	2619	OG1	THR	340	14.663	-1.472	11.616	1.00	26.76
atom	2620	CG2	THR	340	14.441	-1.740	9.182	1.00	14.19
atom	2621	C	THR	340	13.618	0.947	8.925	1.00	21.79
atom	2622	O	THR	340	14.432	1.172	8.031	1.00	21.76
atom	2623	N	GLU	341	12.308	1.053	8.731	1.00	18.62
atom	2624	CA	GLU	341	11.766	1.482	7.446	1.00	20.97
atom	2625	CB	GLU	341	10.242	1.518	7.477	1.00	18.92
atom	2626	CG	GLU	341	9.568	0.369	6.799	1.00	27.50
atom	2627	CD	GLU	341	8.219	0.080	7.416	1.00	32..36
atom	2628	OE1	GLU	341	8.195	-0.569	8.481	1.00	33.70
atom	2629	OE2	GLU	341	7.187	0.507	6.846	1.00	36.79
atom	2630	C	GLU	341	12.259	2.878	7.081	1.00	18.52
atom	2631	O	GLU	341	12.616	3.117	5.943	1.00	16.55
atom	2632	N	ALA	342	12.248	3.801	8.042	1.00	15.66
atom	2633	CA	ALA	342	12.703	5.147	7.760	1.00	11.85
atom	2634	CB	ALA	342	12.420	6.075	8.949	1.00	5.98
atom	2635	C	ALA	342	14.192	5.089	7.451	1.00	13.06
atom	2636	O	ALA	342	14.630	5.655	6.466	1.00	17.39
atom	2637	N	MET	343	14.958	4.378	8.279	1.00	14.83
atom	2638	CA	MET	343	16.401	4.240	8.096	1.00	15.43
atom	2639	CB	MET	343	17.005	3.288	9.152	1.00	17.16
atom	2640	CG	MET	343	17.219	3.903	10.544	1.00	14.16
atom	2641	SD	MET	343	18.366	5.309	10.607	1.00	15.78
atom	2642	CE	MET	343	19.905	4.462	10.694	1.00	8.77
atom	2643	C	MET	343	16.729	3.717	6.686	1.00	20.04
atom	2644	O	MET	343	17.685	4.188	6.066	1.00	22.60
atom	2645	N	THR	344	15.952	2.748	6.196	1.00	15.69
atom	2646	CA	THR	344	16.158	2.191	4.859	1.00	17.93
atom	2647	CB	THR	344	15.265	0.945	4.622	1.00	19.23
atom	2648	OG1	THR	344	15.461	0.013	5.680	1.00	16.90
atom	2649	CG2	THR	344	15.626	0.265	3.313	1.00	23.01
atom	2650	C	THR	344	15.841	3.233	3.767	1.00	16.50
atom	2651	O	THR	344	16.473	3.258	2.708	1.00	14.88

atom	2652	N	ARG	345	14.857	4.086	4.028	1.00	12.81
atom	2653	CA	ARG	345	14.483	5.130	3.075	1.00	12.96
atom	2654	CB	ARG	345	13.256	5.890	3.558	1.00	12.13
atom	2655	CG	ARG	345	12.127	5.933	2.572	1.00	24.12
atom	2656	CD	ARG	345	10.831	5.426	3.174	1.00	19.46
atom	2657	NE	ARG	345	10.495	6.121	4.416	1.00	22.42
atom	2658	CZ	ARG	345	9.921	5.523	5.455	1.00	23.15
atom	2659	NH1	ARG	345	9.615	4.230	5.387	1.00	22.49
atom	2660	NH2	ARG	345	9.642	6.211	6.553	1.00	22.68
atom	2661	C	ARG	345	15.628	6.110	2.972	1.00	11.64
atom	2662	O	ARG	345	15.861	6.699	1.939	1.00	15.57
atom	2663	N	TYR	346	16.344	6.285	4.073	1.00	16.09
atom	2664	CA	TYR	346	17.452	7.219	4.117	1.00	10.12
atom	2665	CB	TYR	346	17.673	7.718	5.537	1.00	10.24
atom	2666	CG	TYR	346	16.491	8.434	6.161	1.00	8.55
atom	2667	CD1	TYR	346	16.356	8.477	7.546	1.00	2.00
atom	2668	CE1	TYR	346	15.341	9.215	8.159	1.00	7.85
atom	2669	CD2	TYR	346	15.566	9.149	5.378	1.00	3.32
atom	2670	CE2	TYR	346	14.532	9.900	5.980	1.00	4.00
atom	2671	CZ	TYR	346	14.434	9.921	7.377	1.00	11.88
atom	2672	OH	TYR	346	13.415	10.589	8.011	1.00	16.58
atom	2673	C	TYR	346	18.688	6.530	3.649	1.00	10.73
atom	2674	O	TYR	346	19.759	7.131	3.648	1.00	14.56
atom	2675	N	SER	347	18.544	5.262	3.263	1.00	8.88
atom	2676	CA	SER	347	19.682	4.485	2.779	1.00	11.02
atom	2677	CB	SER	347	20.436	5.257	1.719	1.00	7.10
atom	2678	OG	SER	347	21.677	4.649	1.524	1.00	15.91
atom	2679	C	SER	347	20.655	4.127	3.891	1.00	17.57
atom	2680	O	SER	347	21.824	4.535	3.894	1.00	16.67
atom	2681	N	ALA	348	20.139	3.374	4.850	1.00	21.53
atom	2682	CA	ALA	348	20.901	2.902	5.984	1.00	16.82
atom	2683	CB	ALA	348	20.931	3.942	7.063	1.00	19.61
atom	2684	C	ALA	348	20.129	1.676	6.436	1.00	17.95
atom	2685	O	ALA	348	19.612	1.636	7.541	1.00	19.35
atom	2686	N	PRO	349	20.019	0.666	5.558	1.00	17.48
atom	2687	CD	PRO	349	20.619	0.634	4.218	1.00	17.13

atom	2688	CA	PRO	349	19.309	-0.585	5.845	1.00	22.29
atom	2689	CB	PRO	349	19.249	-1.270	4.485	1.00	18.68
atom	2690	CG	PRO	349	20.508	-0.822	3.840	1.00	18.33
atom	2691	C	PRO	349	20.107	-1.390	6.883	1.00	22.65
atom	2692	O	PRO	349	21.327	-1.266	6.976	1.00	22.99
atom	2693	N	PRO	350	19.433	-2.257	7.640	1.00	25.69
atom	2694	CD	PRO	350	17.999	-2.613	7.620	1.00	28.35
atom	2695	CA	PRO	350	20.147	-3.026	8.656	1.00	29.11
atom	2696	CB	PRO	350	19.093	-3.186	9.747	1.00	23.51
atom	2697	CG	PRO	350	17.818	-3.395	8.940	1.00	21.77
atom	2698	C	PRO	350	20.721	-4.376	8.241	1.00	33.76
atom	2699	O	PRO	350	20.133	-5.090	7.431	1.00	35.09
atom	2700	N	GLY	351	21.874	-4.718	8.815	1.00	38.72
atom	2701	CA	GLY	351	22.476	-6.010	8.549	1.00	42.12
atom	2702	C	GLY	351	21.610	-7.000	9.315	1.00	45.61
atom	2703	O	GLY	351	21.067	-7.954	8.743	1.00	47.44
atom	2704	N	ASP	352	21.483	-6.752	10.621	1.00	44.23
atom	2705	CA	ASP	352	20.660	-7.564	11.519	1.00	41.08
atom	2706	CB	ASP	352	21.451	-7.984	12.764	1.00	43.20
atom	2707	CG	ASP	352	22.665	-8.844	12.434	1.00	47.05
atom	2708	OD1	ASP	352	22.475	-10.011	12.015	1.00	49.57
atom	2709	OD2	ASP	352	23.809	-8.358	12.599	1.00	43.57
atom	2710	C	ASP	352	19.544	-6.618	11.929	1.00	35.01
atom	2711	O	ASP	352	19.787	-5.445	12.194	1.00	36.47
atom	2712	N	PRO	353	18.304	-7.100	11.969	1.00	31.96
atom	2713	CD	PRO	353	17.786	-8.437	11.653	1.00	33.23
atom	2714	CA	PRO	353	17.238	-6.177	12.363	1.00	32.72
atom	2715	CB	PRO	353	15.961	-7.010	12.218	1.00	30.87
atom	2716	CG	PRO	353	16.352	-8.150	11.317	1.00	33.49
atom	2717	C	PRO	353	17.426	-5.659	13.778	1.00	29.30
atom	2718	O	PRO	353	18.168	-6.231	14.563	1.00	31.98
atom	2719	N	PRO	354	16.808	-4.526	14.103	1.00	26.36
atom	2720	CD	PRO	354	15.998	-3.614	13.280	1.00	25.22
atom	2721	CA	PRO	354	16.977	-4.037	15.472	1.00	25.21
atom	2722	CB	PRO	354	16.557	-2.581	15.380	1.00	23.85
atom	2723	CG	PRO	354	15.528	-2.571	14.271	1.00	23.54

	atom	2724	C	PRO	354	16.042	-4.838	16.383	1.00	27.24
	atom	2725	O	PRO	354	14.889	-5.090	16.034	1.00	22.85
	atom	2726	N	GLN	355	16.532	-5.260	17.540	1.00	29.74
	atom	2727	CA	GLN	355	15.672	-6.012	18.452	1.00	32.54
	atom	2728	CB	GLN	355	16.264	-7.391	18.752	1.00	33.31
	atom	2729	CG	GLN	355	15.215	-8.408	19.199	1.00	42.98
	atom	2730	CD	GLN	355	15.701	-9.856	19.102	1.00	47.82
	atom	2731	OE1	GLN	355	14.915	-10.774	18.818	1.00	47.88
	atom	2732	NE2	GLN	355	17.000	-10.066	19.337	1.00	47.91
	atom	2733	C	GLN	355	15.504	-5.227	19.744	1.00	29.39
	atom	2734	O	GLN	355	16.490	-4.764	20.316	1.00	28.43
	atom	2735	N	PRO	356	14.255	-5.056	20.217	1.00	28.59
	atom	2736	CD	PRO	356	12.960	-5.521	19.690	1.00	28.05
	atom	2737	CA	PRO	356	14.118	-4.298	21.463	1.00	29.05
	atom	2738	CB	PRO	356	12.621	-4.007	21.568	1.00	23.89
	atom	2739	CG	PRO	356	11.954	-4.958	20.661	1.00	27.97
	atom	2740	C	PRO	356	14.659	-5.097	22.649	1.00	33.81
	atom	2741	O	PRO	356	14.409	-6.307	22.776	1.00	33.07
	atom	2742	N	GLU	357	15.426	-4.404	23.487	1.00	32.99
	atom	2743	CA	GLU	357	16.037	-4.979	24.667	1.00	34.32
	atom	2744	CB	GLU	357	17.539	-4.694	24.656	1.00	34.64
	atom	2745	CG	GLU	357	18.438	-5.917	24.654	1.00	41.61
	atom	2746	CD	GLU	357	17.794	-7.141	24.028	1.00	46.37
	atom	2747	OE1	GLU	357	16.749	-7.006	23.347	1.00	49.58
	atom	2748	OE2	GLU	357	18.342	-8.247	24.215	1.00	47.15
	atom	2749	C	GLU	357	15.413	-4.379	25.916	1.00	36.99
	atom	2750	O	GLU	357	14.964	-3.227	25.908	1.00	40.64
	atom	2751	N	TYR	358	15.401	-5.161	26.990	1.00	37.60
	atom	2752	CA	TYR	358	14.841	-4.724	28.257	1.00	35.53
	atom	2753	CB	TYR	358	13.519	-5.463	28.480	1.00	32.72
	atom	2754	CG	TYR	358	12.515	-5.183	27.373	1.00	31.24
	atom	2755	CD1	TYR	358	12.387	-6.055	26.278	1.00	29.89
	atom	2756	CE1	TYR	358	11.507	-5.776	25.234	1.00	30.39
	atom	2757	CD2	TYR	358	11.724	-4.023	27.393	1.00	21.47
	atom	2758	CE2	TYR	358	10.844	-3.736	26.364	1.00	21.96
	atom	2759	CZ	TYR	358	10.740	-4.616	25.279	1.00	27.72

atom	2760	OH	TYR	358	9.900	-4.319	24.229	1.00	21.73
atom	2761	C	TYR	358	15.862	-5.014	29.369	1.00	37.22
atom	2762	O	TYR	358	15.656	-4.689	30.541	1.00	35.67
atom	2763	N	ASP	359	16.974	-5.620	28.962	1.00	36.82
atom	2764	CA	ASP	359	18.074	-5.977	29.851	1.00	39.59
atom	2765	CB	ASP	359	18.331	-7.487	29.776	1.00	45.28
atom	2766	CG	ASP	359	18.558	-8.120	31.136	1.00	48.29
atom	2767	OD1	ASP	359	18.876	-7.395	32.103	1.00	55.92
atom	2768	OD2	ASP	359	18.426	-9.355	31.239	1.00	49.53
atom	2769	C	ASP	359	19.324	-5.228	29.385	1.00	38.72
atom	2770	O	ASP	359	20.122	-5.763	28.607	1.00	39.87
atom	2771	N	LEU	360	19.476	-3.994	29.857	1.00	36.52
atom	2772	CA	LEU	360	20.603	-3.129	29.505	1.00	36.77
atom	2773	CB	LEU	360	20.901	-2.161	30.651	1.00	34.29
atom	2774	CG	LEU	360	22.143	-1.272	30.465	1.00	37.55
atom	2775	CD1	LEU	360	21.973	-0.372	29.248	1.00	29.93
atom	2776	CD2	LEU	360	22.365	-0.420	31.727	1.00	36.42
atom	2777	C	LEU	360	21.875	-3.882	29.146	1.00	36.90
atom	2778	O	LEU	360	22.551	-3.552	28.177	1.00	38.17
atom	2779	N	GLU	361	22.194	-4.893	29.942	1.00	37.83
atom	2780	CA	GLU	361	23.377	-5.717	29.744	1.00	35.87
atom	2781	CB	GLU	361	23.416	-6.785	30.849	1.00	34.29
atom	2782	CG	GLU	361	24.650	-7.694	30.868	1.00	32.02
atom	2783	CD	GLU	361	24.779	-8.475	32.178	1.00	36.91
atom	2784	OE1	GLU	361	24.869	-9.725	32.113	1.00	36.54
atom	2785	OE2	GLU	361	24.789	-7.842	33.271	1.00	34.86
atom	2786	C	GLU	361	23.415	-6.384	28.355	1.00	37.17
atom	2787	O	GLU	361	24.481	-6.547	27.769	1.00	37.31
atom	2788	N	LEU	362	22.254	-6.756	27.826	1.00	39.56
atom	2789	CA	LEU	362	22.195	-7.429	26.529	1.00	40.91
atom	2790	CB	LEU	362	20.932	-8.298	26.442	1.00	42.13
atom	2791	CG	LEU	362	21.081	-9.614	27.229	1.00	43.71
atom	2792	CD1	LEU	362	20.850	-9.356	28.708	1.00	43.86
atom	2793	CD2	LEU	362	20.106	-10.654	26.729	1.00	42.44
atom	2794	C	LEU	362	22.279	-6.497	25.329	1.00	38.74
atom	2795	O	LEU	362	22.270	-6.945	24.189	1.00	34.53

	atom	2796	N	ILE	363	22.375	-5.199	25.588	1.00	35.68
	atom	2797	CA	ILE	363	22.493	-4.246	24.507	1.00	33.38
	atom	2798	CB	ILE	363	21.907	-2.870	24.889	1.00	31.46
	atom	2799	CG2	ILE	363	22.167	-1.849	23.766	1.00	25.00
	atom	2800	CG1	ILE	363	20.406	-3.015	25.153	1.00	33.04
	atom	2801	CD1	ILE	363	19.783	-1.853	25.910	1.00	32.87
	atom	2802	C	ILE	363	23.966	-4.082	24.202	1.00	33.97
	atom	2803	O	ILE	363	24.668	-3.379	24.922	1.00	35.19
	atom	2804	N	THR	364	24.453	-4.739	23.156	1.00	36.06
	atom	2805	CA	THR	364	25.860	-4.580	22.825	1.00	38.67
	atom	2806	CB	THR	364	26.496	-5.893	22.330	1.00	38.78
	atom	2807	OG1	THR	364	27.191	-5.659	21.100	1.00	39.96
	atom	2808	CG2	THR	364	25.436	-6.964	22.146	1.00	42.76
	atom	2809	C	THR	364	25.946	-3.501	21.760	1.00	41.16
	atom	2810	O	THR	364	25.108	-3.444	20.865	1.00	42.45
	atom	2811	N	SER	365	26.940	-2.624	21.889	1.00	43.05
	atom	2812	CA	SER	365	27.134	-1.515	20.963	1.00	43.64
	atom	2813	CB	SER	365	26.338	-0.298	21.435	1.00	43.29
	atom	2814	OG	SER	365	27.194	0.807	21.650	1.00	47.26
	atom	2815	C	SER	365	28.616	-1.176	20.899	1.00	44.44
	atom	2816	O	SER	365	29.278	-1.050	21.939	1.00	42.95
	atom	2817	N	CYS	366	29.121	-1.014	19.676	1.00	44.33
	atom	2818	CA	CYS	366	30.535	-0.734	19.444	1.00	41.74
	atom	2819	CB	CYS	366	31.041	0.377	20.363	1.00	42.48
	atom	2820	SG	CYS	366	30.515	2.037	19.903	1.00	37.51
	atom	2821	C	CYS	366	31.250	-2.036	19.773	1.00	42.11
	atom	2822	O	CYS	366	32.321	-2.052	20.392	1.00	38.89
	atom	2823	N	SER	367	30.617	-3.128	19.361	1.00	41.96
	atom	2824	CA	SER	367	31.134	-4.466	19.589	1.00	45.83
	atom	2825	CB	SER	367	32.423	-4.656	18.791	1.00	47.19
	atom	2826	OG	SER	367	32.141	-5.257	17.537	1.00	53.00
	atom	2827	C	SER	367	31.375	-4.789	21.071	1.00	45.17
	atom	2828	O	SER	367	32.167	-5.686	21.381	1.00	41.42
	atom	2829	N	SER	368	30.687	-4.070	21.967	1.00	42.35
	atom	2830	CA	SER	368	30.829	-4.268	23.418	1.00	41.58
	atom	2831	CB	SER	368	31.988	-3.428	23.952	1.00	38.01

atom	2832	OG	SER	368	31.614	-2.077	24.035	1.00	35.59
atom	2833	C	SER	368	29.554	-3.930	24.193	1.00	39.93
atom	2834	O	SER	368	28.644	-3.323	23.648	1.00	45.35
atom	2835	N	ASN	369	29.489	-4.315	25.465	1.00	37.24
atom	2836	CA	ASN	369	28.292	-4.064	26.275	1.00	36.60
atom	2837	CB	ASN	369	27.423	-5.307	26.268	1.00	31.85
atom	2838	CG	ASN	369	28.114	-6.459	26.917	1.00	35.41
atom	2839	OD1	ASN	369	29.050	-7.021	26.344	1.00	29.53
atom	2840	ND2	ASN	369	27.692	-6.807	28.136	1.00	31.65
atom	2841	C	ASN	369	28.537	-3.650	27.737	1.00	30.94
atom	2842	O	ASN	369	29.665	-3.589	28.203	1.00	34.12
atom	2843	N	VAL	370	27.453	-3.381	28.453	1.00	30.55
atom	2844	CA	VAL	370	27.508	-2.948	29.850	1.00	24.47
atom	2845	CB	VAL	370	26.425	-1.882	30.166	1.00	27.62
atom	2846	CG1	VAL	370	26.311	-1.705	31.672	1.00	30.91
atom	2847	CG2	VAL	370	26.758	-0.549	29.495	1.00	24.11
atom	2848	C	VAL	370	27.248	-4.109	30.776	1.00	23.63
atom	2849	O	VAL	370	26.241	-4.799	30.640	1.00	22.44
atom	2850	N	SER	371	28.136	-4.313	31.739	1.00	22.16
atom	2851	CA	SER	371	27.956	-5.410	32.676	1.00	22.77
atom	2852	CB	SER	371	28.886	-6.575	32.309	1.00	24.91
atom	2853	OG	SER	371	28.557	-7.746	33.040	1.00	22.94
atom	2854	C	SER	371	28.214	-4.976	34.121	1.00	22.34
atom	2855	O	SER	371	28.838	-3.932	34.384	1.00	20.05
atom	2856	N	VAL	372	27.745	-5.800	35.056	1.00	21.56
atom	2857	CA	VAL	372	27.898	-5.509	36.473	1.00	15.57
atom	2858	CB	VAL	372	26.561	-5.566	37.207	1.00	19.67
atom	2859	CG1	VAL	372	26.720	-4.920	38.592	1.00	26.20
atom	2860	CG2	VAL	372	25.471	-4.875	36.402	1.00	10.49
atom	2861	C	VAL	372	28.832	-6.431	37.221	1.00	15.58
atom	2862	O	VAL	372	28.930	-7.627	36.922	1.00	14.13
atom	2863	N	ALA	373	29.520	-5.845	38.196	1.00	16.39
atom	2864	CA	ALA	373	30.438	-6.563	39.074	1.00	18.31
atom	2865	CB	ALA	373	31.826	-6.545	38.495	1.00	16.15
atom	2866	C	ALA	373	30.416	-5.854	40.438	1.00	20.53
atom	2867	O	ALA	373	29.603	-4.963	40.667	1.00	26.41

atom	2868	N	HIS	374	31.302	-6.233	41.347	1.00	23.28
atom	2869	CA	HIS	374	31.333	-5.589	42.654	1.00	21.68
atom	2870	CB	HIS	374	30.696	-6.495	43.685	1.00	23.76
atom	2871	CG	HIS	374	29.232	-6.653	43.487	1.00	23.91
atom	2872	CD2	HIS	374	28.196	-5.868	43.863	1.00	25.69
atom	2873	ND1	HIS	374	28.694	-7.672	42.732	1.00	26.95
atom	2874	CE1	HIS	374	27.386	-7.507	42.650	1.00	29.89
atom	2875	NE2	HIS	374	27.058	-6.420	43.327	1.00	29.47
atom	2876	C	HIS	374	32.732	-5.231	43.070	1.00	21.80
atom	2877	O	HIS	374	33.660	-6.002	42.859	1.00	21.70
atom	2878	N	ASP	375	32.893	-4.064	43.675	1.00	24.44
atom	2879	CA	ASP	375	34.228	-3.644	44.070	1.00	28.87
atom	2880	CB	ASP	375	34.365	-2.128	43.963	1.00	26.72
atom	2881	CG	ASP	375	34.061	-1.422	45.274	1.00	35.28
atom	2882	OD1	ASP	375	32.918	-1.530	45.763	1.00	34.88
atom	2883	OD2	ASP	375	34.971	-0.762	45.820	1.00	41.21
atom	2884	C	ASP	375	34.624	-4.112	45.471	1.00	32.70
atom	2885	O	ASP	375	33.977	-4.977	46.062	1.00	31.75
atom	2886	N	ALA	376	35.724	-3.549	45.961	1.00	37.02
atom	2887	CA	ALA	376	36.280	-3.854	47.268	1.00	36.04
atom	2888	CB	ALA	376	37.426	-2.890	47.558	1.00	35.93
atom	2889	C	ALA	376	35.227	-3.765	48.368	1.00	38.47
atom	2890	O	ALA	376	35.063	-4.700	49.158	1.00	40.65
atom	2891	N	SER	377	34.522	-2.636	48.418	1.00	36.68
atom	2892	CA	SER	377	33.486	-2.408	49.421	1.00	36.49
atom	2893	CB	SER	377	33.243	-0.906	49.597	1.00	37.48
atom	2894	OG	SER	377	32.235	-0.446	48.709	1.00	39.42
atom	2895	C	SER	377	32.174	-3.088	49.060	1.00	35.46
atom	2896	O	SER	377	31.138	-2.804	49.655	1.00	40.61
atom	2897	N	GLY	378	32.218	-3.968	48.071	1.00	31.94
atom	2898	CA	GLY	378	31.031	-4.694	47.656	1.00	30.54
atom	2899	C	GLY	378	29.927	-3.897	46.985	1.00	29.00
atom	2900	O	GLY	378	28.841	-4.407	46.741	1.00	29.96
atom	2901	N	LYS	379	30.181	-2.639	46.686	1.00	31.48
atom	2902	CA	LYS	379	29.157	-1.850	46.036	1.00	35.92
atom	2903	CB	LYS	379	29.458	-0.361	46.194	1.00	38.88

	atom	2904	CG	LYS	379	28.219	0.535	46.092	1.00	46.72
	atom	2905	CD	LYS	379	28.395	1.885	46.812	1.00	49.32
	atom	2906	CE	LYS	379	29.863	2.313	46.891	1.00	52.18
	atom	2907	NZ	LYS	379	30.492	1.882	48.176	1.00	50.19
	atom	2908	C	LYS	379	29.128	-2.234	44.555	1.00	36.66
	atom	2909	O	LYS	379	30.180	-2.461	43.931	1.00	33.38
	atom	2910	N	ARG	380	27.923	-2.320	44.001	1.00	33.24
	atom	2911	CA	ARG	380	27.769	-2.663	42.598	1.00	31.43
	atom	2912	CB	ARG	380	26.283	-2.688	42.216	1.00	28.74
	atom	2913	CG	ARG	380	25.776	-4.105	41.995	1.00	31.92
	atom	2914	CD	ARG	380	24.294	-4.180	41.834	1.00	29.13
	atom	2915	NE	ARG	380	23.707	-2.877	41.580	1.00	37.71
	atom	2916	CZ	ARG	380	23.446	-2.397	40.370	1.00	44.95
	atom	2917	NH1	ARG	380	23.727	-3.122	39.291	1.00	44.04
	atom	2918	NH2	ARG	380	22.876	-1.198	40.239	1.00	46.73
	atom	2919	C	ARG	380	28.514	-1.682	41.700	1.00	30.44
	atom	2920	O	ARG	380	28.505	-0.480	41.941	1.00	30.65
	atom	2921	N	VAL	381	29.185	-2.207	40.680	1.00	28.65
	atom	2922	CA	VAL	381	29.908	-1.366	39.736	1.00	25.65
	atom	2923	CB	VAL	381	31.431	-1.334	40.028	1.00	24.97
	atom	2924	CG1	VAL	381	32.146	-0.472	38.976	1.00	27.18
	atom	2925	CG2	VAL	381	31.683	-0.758	41.417	1.00	21.96
	atom	2926	C	VAL	381	29.671	-1.827	38.289	1.00	25.25
	atom	2927	O	VAL	381	29.862	-3.003	37.927	1.00	24.76
	atom	2928	N	TYR	382	29.229	-0.878	37.477	1.00	20.70
	atom	2929	CA	TYR	382	28.960	-1.113	36.069	1.00	22.49
	atom	2930	CB	TYR	382	27.831	-0.198	35.603	1.00	19.31
	atom	2931	CG	TYR	382	26.470	-0.566	36.127	1.00	19.83
	atom	2932	CD1	TYR	382	25.954	0.048	37.275	1.00	23.95
	atom	2933	CE1	TYR	382	24.647	-0.207	37.707	1.00	23.01
	atom	2934	CD2	TYR	382	25.653	-1.453	35.428	1.00	15.52
	atom	2935	CE2	TYR	382	24.348	-1.718	35.841	1.00	16.17
	atom	2936	CZ	TYR	382	23.847	-1.083	36.980	1.00	24.06
	atom	2937	OH	TYR	382	22.539	-1.289	37.367	1.00	27.97
	atom	2938	C	TYR	382	30.222	-0.797	35.268	1.00	20.28
	atom	2939	O	TYR	382	30.849	0.228	35.494	1.00	17.61

atom	2940	N	TYR	383	30.577	-1.679	34.333	1.00	22.04
atom	2941	CA	TYR	383	31.759	-1.498	33.480	1.00	17.05
atom	2942	CB	TYR	383	32.930	-2.279	34.066	1.00	14.01
atom	2943	CG	TYR	383	32.781	-3.782	33.968	1.00	15.16
atom	2944	CD1	TYR	383	31.806	-4.463	34.725	1.00	12.97
atom	2945	CE1	TYR	383	31.650	-5.861	34.630	1.00	6.21
atom	2946	CD2	TYR	383	33.608	-4.536	33.111	1.00	9.83
atom	2947	CE2	TYR	383	33.461	-5.920	33.013	1.00	7.71
atom	2948	CZ	TYR	383	32.482	-6.570	33.769	1.00	10.71
atom	2949	OH	TYR	383	32.324	-7.918	33.628	1.00	17.89
atom	2950	C	TYR	383	31.539	-1.936	32.006	1.00	18.86
atom	2951	O	TYR	383	30.604	-2.676	31.682	1.00	9.75
atom	2952	N	LEU	384	32.428	-1.468	31.133	1.00	20.41
atom	2953	CA	LEU	384	32.387	-1.761	29.700	1.00	22.72
atom	2954	CB	LEU	384	33.089	-0.653	28.906	1.00	27.28
atom	2955	CG	LEU	384	32.206	0.373	28.189	1.00	33.06
atom	2956	CD1	LEU	384	33.065	1.244	27.233	1.00	34.76
atom	2957	CD2	LEU	384	31.112	-0.361	27.442	1.00	21.43
atom	2958	C	LEU	384	33.091	-3.066	29.392	1.00	23.29
atom	2959	O	LEU	384	34.285	-3.224	29.672	1.00	16.65
atom	2960	N	THR	385	32.368	-4.002	28.803	1.00	20.42
atom	2961	CA	THR	385	33.006	-5.257	28.488	1.00	25.24
atom	2962	CB	THR	385	32.725	-6.312	29.566	1.00	24.34
atom	2963	OG1	THR	385	33.725	-7.341	29.500	1.00	25.86
atom	2964	CG2	THR	385	31.365	-6.920	29.353	1.00	25.15
atom	2965	C	THR	385	32.625	-5.803	27.115	1.00	28.01
atom	2966	O	THR	385	31.850	-5.190	26.371	1.00	27.17
atom	2967	N	ARG	386	33.151	-6.976	26.788	1.00	29.12
atom	2968	CA	ARG	386	32.886	-7.513	25.479	1.00	27.83
atom	2969	CB	ARG	386	33.539	-6.542	24.501	1.00	27.61
atom	2970	CG	ARG	386	33.829	-7.097	23.168	1.00	31.30
atom	2971	CD	ARG	386	35.308	-7.124	22.857	1.00	23.16
atom	2972	NE	ARG	386	35.409	-7.801	21.577	1.00	16.35
atom	2973	CZ	ARG	386	35.558	-7.169	20.428	1.00	12.96
atom	2974	NH1	ARG	386	35.634	-5.839	20.419	1.00	12.85
atom	2975	NH2	ARG	386	35.542	-7.860	19.294	1.00	15.28

atom	2976	C	ARG	386	33.418	-8.940	25.299	1.00	27.06
atom	2977	O	ARG	386	34.192	-9.428	26.117	1.00	25.84
atom	2978	N	ASP	387	32.968	-9.613	24.242	1.00	27.53
atom	2979	CA	ASP	387	33.450	-10.958	23.924	1.00	24.59
atom	2980	CB	ASP	387	32.841	-11.422	22.615	1.00	24.42
atom	2981	CG	ASP	387	33.009	-12.888	22.400	1.00	22.95
atom	2982	OD1	ASP	387	32.016	-13.604	22.563	1.00	23.62
atom	2983	OD2	ASP	387	34.134	-13.329	22.072	1.00	27.28
atom	2984	C	ASP	387	34.966	-10.785	23.765	1.00	23.96
atom	2985	O	ASP	387	35.424	-9.879	23.071	1.00	22.34
atom	2986	N	PRO	388	35.764	-11.665	24.379	1.00	19.21
atom	2987	CD	PRO	388	35.473	-12.838	25.222	1.00	20.90
atom	2988	CA	PRO	388	37.199	-11.474	24.242	1.00	20.36
atom	2989	CB	PRO	388	37.714	-11.909	25.611	1.00	15.78
atom	2990	CG	PRO	388	36.797	-13.039	25.993	1.00	10.82
atom	2991	C	PRO	388	37.897	-12.209	23.107	1.00	22.20
atom	2992	O	PRO	388	39.105	-12.068	22.936	1.00	27.27
atom	2993	N	THR	389	37.147	-12.986	22.341	1.00	21.30
atom	2994	CA	THR	389	37.707	-13.756	21.233	1.00	20.33
atom	2995	CB	THR	389	36.572	-14.319	20.365	1.00	22.95
atom	2996	OG1	THR	389	35.905	-15.371	21.074	1.00	16.21
atom	2997	CG2	THR	389	37.116	-14.857	19.059	1.00	24.76
atom	2998	C	THR	389	38.714	-13.017	20.333	1.00	21.29
atom	2999	O	THR	389	39.837	-13.472	20.135	1.00	25.30
atom	3000	N	THR	390	38.314	-11.879	19.790	1.00	21.06
atom	3001	CA	THR	390	39.189	-11.112	18.907	1.00	20.45
atom	3002	CB	THR	390	38.366	-9.966	18.182	1.00	22.74
atom	3003	OG1	THR	390	37.404	-10.571	17.309	1.00	15.53
atom	3004	CG2	THR	390	39.276	-9.031	17.364	1.00	9.68
atom	3005	C	THR	390	40.424	-10.547	19.625	1.00	21.65
atom	3006	O	THR	390	41.555	-10.778	19.192	1.00	26.77
atom	3007	N	PRO	391	40.232	-9.781	20.711	1.00	20.31
atom	3008	CD	PRO	391	38.970	-9.345	21.336	1.00	24.13
atom	3009	CA	PRO	391	41.405	-9.241	21.410	1.00	18.82
atom	3010	CB	PRO	391	40.820	-8.613	22.671	1.00	19.00
atom	3011	CG	PRO	391	39.420	-8.283	22.309	1.00	22.38

	atom	3012	C	PRO	391	42.391	-10.359	21.751	1.00	19.91
	atom	3013	O	PRO	391	43.597	-10.187	21.684	1.00	21.23
	atom	3014	N	LEU	392	41.856	-11.511	22.127	1.00	20.70
	atom	3015	CA	LEU	392	42.692	-12.650	22.458	1.00	20.82
	atom	3016	CB	LEU	392	41.841	-13.759	23.073	1.00	17.55
	atom	3017	CG	LEU	392	41.345	-13.392	24.478	1.00	21.46
	atom	3018	CD1	LEU	392	40.825	-14.630	25.205	1.00	15.26
	atom	3019	CD2	LEU	392	42.485	-12.737	25.250	1.00	15.90
	atom	3020	C	LEU	392	43.416	-13.148	21.204	1.00	24.09
	atom	3021	O	LEU	392	44.650	-13.216	21.188	1.00	23.77
	atom	3022	N	ALA	393	42.664	-13.472	20.151	1.00	17.72
	atom	3023	CA	ALA	393	43.297	-13.951	18.936	1.00	16.17
	atom	3024	CB	ALA	393	42.258	-14.247	17.869	1.00	22.26
	atom	3025	C	ALA	393	44.293	-12.917	18.436	1.00	12.90
	atom	3026	O	ALA	393	45.385	-13.261	18.017	1.00	13.43
	atom	3027	N	ARG	394	43.931	-11.645	18.489	1.00	14.42
	atom	3028	CA	ARG	394	44.846	-10.624	18.021	1.00	17.59
	atom	3029	CB	ARG	394	44.150	-9.256	17.943	1.00	14.82
	atom	3030	CG	ARG	394	42.984	-9.215	16.962	1.00	16.07
	atom	3031	CD	ARG	394	42.631	-7.760	16.526	1.00	12.41
	atom	3032	NE	ARG	394	41.684	-7.773	15.413	1.00	14.24
	atom	3033	CZ	ARG	394	40.850	-6.787	15.087	1.00	17.39
	atom	3034	NH1	ARG	394	40.817	-5.667	15.781	1.00	10.53
	atom	3035	NH2	ARG	394	40.019	-6.940	14.066	1.00	20.76
	atom	3036	C	ARG	394	46.004	-10.594	19.016	1.00	22.24
	atom	3037	O	ARG	394	47.155	-10.344	18.655	1.00	26.32
	atom	3038	N	ALA	395	45.685	-10.866	20.274	1.00	24.17
	atom	3039	CA	ALA	395	46.683	-10.893	21.330	1.00	22.92
	atom	3040	CB	ALA	395	46.023	-11.255	22.648	1.00	21.94
	atom	3041	C	ALA	395	47.737	-11.929	20.955	1.00	21.60
	atom	3042	O	ALA	395	48.914	-11.617	20.853	1.00	26.01
	atom	3043	N	ALA	396	47.310	-13.161	20.731	1.00	17.87
	atom	3044	CA	ALA	396	48.241	-14.216	20.349	1.00	20.24
	atom	3045	CB	ALA	396	47.456	-15.498	20.012	1.00	14.04
	atom	3046	C	ALA	396	49.138	-13.809	19.158	1.00	21.01
	atom	3047	O	ALA	396	50.365	-13.943	19.201	1.00	22.33

atom	3048	N	TRP	397	48.510	-13.311	18.100	1.00	23.99
atom	3049	CA	TRP	397	49.211	-12.899	16.895	1.00	24.01
atom	3050	CB	TRP	397	48.224	-12.242	15.910	1.00	26.48
atom	3051	CG	TRP	397	48.767	-12.062	14.503	1.00	21.25
atom	3052	CD2	TRP	397	48.534	-12.918	13.380	1.00	18.44
atom	3053	CE2	TRP	397	49.284	-12.406	12.295	1.00	21.16
atom	3054	CE3	TRP	397	47.767	-14.068	13.183	1.00	20.72
atom	3055	CD1	TRP	397	49.621	-11.083	14.067	1.00	24.22
atom	3056	NE1	TRP	397	49.936	-11.286	12.739	1.00	26.31
atom	3057	CZ2	TRP	397	49.289	-13.010	11.037	1.00	20.85
atom	3058	CZ3	TRP	397	47.771	-14.672	11.924	1.00	21.73
atom	3059	CH2	TRP	397	48.528	-14.140	10.872	1.00	22.07
atom	3060	C	TRP	397	50.347	-11.933	17.192	1.00	26.70
atom	3061	O	TRP	397	51.503	-12.193	16.868	1.00	28.31
atom	3062	N	GLU	398	50.017	-10.812	17.811	1.00	26.37
atom	3063	CA	GLU	398	51.020	-9.806	18.112	1.00	27.65
atom	3064	CB	GLU	398	50.315	-8.560	18.657	1.00	28.99
atom	3065	CG	GLU	398	49.578	-7.787	17.567	1.00	18.59
atom	3066	CD	GLU	398	48.272	-7.200	18.038	1.00	27.32
atom	3067	OE1	GLU	398	47.227	-7.608	17.484	1.00	24.97
atom	3068	OE2	GLU	398	48.294	-6.338	18.953	1.00	22.57
atom	3069	C	GLU	398	52.159	-10.274	19.032	1.00	30.21
atom	3070	O	GLU	398	53.148	-9.560	19.213	1.00	31.40
atom	3071	N	THR	399	52.014	-11.475	19.599	1.00	31.36
atom	3072	CA	THR	399	53.037	-12.088	20.452	1.00	28.89
atom	3073	CB	THR	399	52.398	-12.967	21.550	1.00	28.74
atom	3074	OG1	THR	399	51.402	-12.216	22.242	1.00	28.05
atom	3075	CG2	THR	399	53.439	-13.418	22.545	1.00	27.81
atom	3076	C	THR	399	53.919	-12.988	19.548	1.00	29.90
atom	3077	O	THR	399	55.110	-13.197	19.803	1.00	21.09
atom	3078	N	ALA	400	53.309	-13.537	18.500	1.00	31.86
atom	3079	CA	ALA	400	54.027	-14.377	17.532	1.00	29.44
atom	3080	CB	ALA	400	53.043	-15.260	16.751	1.00	24.28
atom	3081	C	ALA	400	54.805	-13.499	16.558	1.00	27.37
atom	3082	O	ALA	400	55.970	-13.745	16.318	1.00	28.03
atom	3083	N	ARG	401	54.158	-12.463	16.021	1.00	30.79

	atom	3084	CA	ARG	401	54.770	-11.549	15.041	1.00	33.84
	atom	3085	CB	ARG	401	54.055	-11.686	13.691	1.00	36.55
	atom	3086	CG	ARG	401	54.832	-11.172	12.471	1.00	42.71
	atom	3087	CD	ARG	401	54.461	-12.002	11.236	1.00	54.18
	atom	3088	NE	ARG	401	55.092	-11.549	9.991	1.00	62.65
	atom	3089	CZ	ARG	401	54.437	-11.329	8.849	1.00	63.48
	atom	3090	NH1	ARG	401	53.126	-11.515	8.781	1.00	62.64
	atom	3091	NH2	ARG	401	55.093	-10.928	7.768	1.00	62.06
	atom	3092	C	ARG	401	54.734	-10.078	15.451	1.00	35.86
	atom	3093	O	ARG	401	53.655	-9.508	15.650	1.00	36.31
	atom	3094	N	HIS	402	55.908	-9.459	15.550	1.00	36.73
	atom	3095	CA	HIS	402	55.977	-8.055	15.929	1.00	43.53
	atom	3096	CB	HIS	402	57.419	-7.533	15.895	1.00	47.85
	atom	3097	CG	HIS	402	57.548	-6.102	16.332	1.00	54.22
	atom	3098	CD2	HIS	402	58.535	-5.456	17.001	1.00	57.20
	atom	3099	ND1	HIS	402	56.583	-5.151	16.068	1.00	56.15
	atom	3100	CE1	HIS	402	56.969	-3.984	16.552	1.00	56.20
	atom	3101	NE2	HIS	402	58.151	-4.140	17.123	1.00	57.51
	atom	3102	C	HIS	402	55.103	-7.160	15.055	1.00	43.10
	atom	3103	O	HIS	402	55.241	-7.116	13.828	1.00	37.82
	atom	3104	N	THR	403	54.228	-6.426	15.734	1.00	44.21
	atom	3105	CA	THR	403	53.286	-5.512	15.114	1.00	46.78
	atom	3106	CB	THR	403	51.872	-5.967	15.444	1.00	47.77
	atom	3107	OG1	THR	403	51.724	-6.042	16.865	1.00	53.44
	atom	3108	CG2	THR	403	51.630	-7.356	14.879	1.00	45.97
	atom	3109	C	THR	403	53.549	-4.099	15.655	1.00	47.61
	atom	3110	O	THR	403	53.456	-3.852	16.855	1.00	48.66
	atom	3111	N	PRO	404	53.870	-3.149	14.769	1.00	46.68
	atom	3112	CD	PRO	404	53.955	-3.250	13.304	1.00	46.25
	atom	3113	CA	PRO	404	54.147	-1.790	15.232	1.00	46.27
	atom	3114	CB	PRO	404	54.578	-1.057	13.961	1.00	45.29
	atom	3115	CG	PRO	404	53.928	-1.812	12.871	1.00	42.84
	atom	3116	C	PRO	404	52.976	-1.117	15.923	1.00	45.84
	atom	3117	O	PRO	404	53.160	-0.411	16.919	1.00	50.57
	atom	3118	N	VAL	405	51.776	-1.312	15.384	1.00	42.54
	atom	3119	CA	VAL	405	50.579	-0.724	15.981	1.00	38.63

atom	3120	CB	VAL	405	49.803	0.128	14.966	1.00	37.25
atom	3121	CG1	VAL	405	48.415	0.436	15.507	1.00	35.73
atom	3122	CG2	VAL	405	50.569	1.426	14.696	1.00	40.20
atom	3123	C	VAL	405	49.700	-1.852	16.487	1.00	35.69
atom	3124	O	VAL	405	48.826	-2.352	15.771	1.00	35.97
atom	3125	N	ASN	406	49.941	-2.248	17.733	1.00	32.68
atom	3126	CA	ASN	406	49.213	-3.352	18.334	1.00	31.20
atom	3127	CB	ASN	406	50.015	-3.941	19.506	1.00	36.47
atom	3128	CG	ASN	406	50.173	-2.966	20.668	1.00	35.06
atom	3129	OD1	ASN	406	51.285	-2.715	21.130	1.00	41.22
atom	3130	ND2	ASN	406	49.065	-2.424	21.146	1.00	31.42
atom	3131	C	ASN	406	47.808	-3.032	18.804	1.00	29.41
atom	3132	O	ASN	406	47.365	-1.882	18.785	1.00	26.28
atom	3133	N	SER	407	47.121	-4.081	19.238	1.00	27.69
atom	3134	CA	SER	407	45.767	-3.967	19.737	1.00	26.15
atom	3135	CB	SER	407	44.853	-4.921	18.963	1.00	26.19
atom	3136	OG	SER	407	45.168	-6.272	19.273	1.00	23.64
atom	3137	C	SER	407	45.714	-4.314	21.226	1.00	22.95
atom	3138	O	SER	407	44.863	-3.800	21.955	1.00	20.75
atom	3139	N	TRP	408	46.620	-5.178	21.675	1.00	21.03
atom	3140	CA	TRP	408	46.619	-5.595	23.075	1.00	21.98
atom	3141	CB	TRP	408	47.656	-6.716	23.317	1.00	24.50
atom	3142	CG	TRP	408	49.082	-6.282	23.337	1.00	34.03
atom	3143	CD2	TRP	408	49.810	-5.745	24.453	1.00	38.01
atom	3144	CE2	TRP	408	51.112	-5.440	23.996	1.00	40.00
atom	3145	CE3	TRP	408	49.488	-5.484	25.793	1.00	40.43
atom	3146	CD1	TRP	408	49.947	-6.290	22.286	1.00	39.23
atom	3147	NE1	TRP	408	51.166	-5.783	22.670	1.00	41.55
atom	3148	CZ2	TRP	408	52.096	-4.890	24.829	1.00	38.74
atom	3149	CZ3	TRP	408	50.468	-4.935	26.622	1.00	39.17
atom	3150	CH2	TRP	408	51.756	-4.644	26.132	1.00	38.81
atom	3151	C	TRP	408	46.768	-4.475	24.109	1.00	17.96
atom	3152	O	TRP	408	46.078	-4.492	25.123	1.00	14.08
atom	3153	N	LEU	409	47.641	-3.496	23.867	1.00	18.71
atom	3154	CA	LEU	409	47.797	-2.409	24.821	1.00	20.06
atom	3155	CB	LEU	409	48.926	-1.444	24.406	1.00	20.61

	atom	3156	CG	LEU	409	49.414	-0.424	25.474	1.00	18.35
	atom	3157	CD1	LEU	409	48.825	-0.708	26.837	1.00	5.22
	atom	3158	CD2	LEU	409	50.919	-0.481	25.586	1.00	23.57
	atom	3159	C	LEU	409	46.474	-1.656	24.944	1.00	22.79
	atom	3160	O	LEU	409	46.007	-1.364	26.053	1.00	29.34
	atom	3161	N	GLY	410	45.878	-1.348	23.798	1.00	25.51
	atom	3162	CA	GLY	410	44.605	-0.645	23.766	1.00	17.80
	atom	3163	C	GLY	410	43.507	-1.458	24.420	1.00	17.47
	atom	3164	O	GLY	410	42.665	-0.911	25.130	1.00	20.34
	atom	3165	N	ASN	411	43.495	-2.767	24.201	1.00	14.98
	atom	3166	CA	ASN	411	42.454	-3.585	24.810	1.00	19.92
	atom	3167	CB	ASN	411	42.508	-5.018	24.266	1.00	21.16
	atom	3168	CG	ASN	411	41.692	-5.177	22.990	1.00	26.01
	atom	3169	OD1	ASN	411	40.599	-4.618	22.865	1.00	21.55
	atom	3170	ND2	ASN	411	42.227	-5.928	22.029	1.00	26.80
	atom	3171	C	ASN	411	42.598	-3.557	26.339	1.00	23.12
	atom	3172	O	ASN	411	41.613	-3.374	27.062	1.00	24.27
	atom	3173	N	ILE	412	43.828	-3.712	26.828	1.00	23.33
	atom	3174	CA	ILE	412	44.063	-3.656	28.259	1.00	24.19
	atom	3175	CB	ILE	412	45.569	-3.726	28.603	1.00	23.03
	atom	3176	CG2	ILE	412	45.826	-3.053	29.955	1.00	15.90
	atom	3177	CG1	ILE	412	46.035	-5.182	28.659	1.00	18.08
	atom	3178	CD1	ILE	412	47.533	-5.304	28.729	1.00	18.86
	atom	3179	C	ILE	412	43.518	-2.306	28.732	1.00	27.08
	atom	3180	O	ILE	412	42.661	-2.239	29.627	1.00	26.35
	atom	3181	N	ILE	413	44.013	-1.235	28.113	1.00	23.29
	atom	3182	CA	ILE	413	43.589	0.109	28.474	1.00	24.70
	atom	3183	CB	ILE	413	44.176	1.146	27.508	1.00	23.52
	atom	3184	CG2	ILE	413	43.518	2.492	27.738	1.00	22.97
	atom	3185	CG1	ILE	413	45.694	1.227	27.684	1.00	18.99
	atom	3186	CD1	ILE	413	46.187	2.585	28.110	1.00	16.43
	atom	3187	C	ILE	413	42.067	0.270	28.478	1.00	28.54
	atom	3188	O	ILE	413	41.460	0.546	29.509	1.00	28.45
	atom	3189	N	MET	414	41.452	0.086	27.319	1.00	28.25
	atom	3190	CA	MET	414	40.015	0.253	27.203	1.00	29.19
	atom	3191	CB	MET	414	39.604	0.219	25.728	1.00	32.24

atom	3192	CG	MET	414	40.255	1.305	24.859	1.00	34.56
atom	3193	SD	MET	414	39.867	2.994	25.373	1.00	39.45
atom	3194	CE	MET	414	38.086	3.098	24.803	1.00	32.14
atom	3195	C	MET	414	39.187	-0.757	27.972	1.00	27.51
atom	3196	O	MET	414	38.041	-0.487	28.318	1.00	23.15
atom	3197	N	TYR	415	39.758	-1.917	28.263	1.00	25.08
atom	3198	CA	TYR	415	38.982	-2.922	28.955	1.00	20.32
atom	3199	CB	TYR	415	38.725	-4.072	27.992	1.00	24.28
atom	3200	CG	TYR	415	37.789	-3.703	26.859	1.00	25.64
atom	3201	CD1	TYR	415	38.232	-3.672	25.534	1.00	29.56
atom	3202	CE1	TYR	415	37.361	-3.339	24.487	1.00	27.98
atom	3203	CD2	TYR	415	36.462	-3.393	27.111	1.00	18.42
atom	3204	CE2	TYR	415	35.593	-3.063	26.090	1.00	26.13
atom	3205	CZ	TYR	415	36.044	-3.036	24.781	1.00	29.85
atom	3206	OH	TYR	415	35.174	-2.681	23.781	1.00	36.03
atom	3207	C	TYR	415	39.593	-3.430	30.254	1.00	21.46
atom	3208	O	TYR	415	39.341	-4.565	30.658	1.00	25.89
atom	3209	N	ALA	416	40.352	-2.571	30.928	1.00	15.41
atom	3210	CA	ALA	416	41.025	-2.928	32.166	1.00	15.54
atom	3211	CB	ALA	416	41.809	-1.707	32.723	1.00	11.41
atom	3212	C	ALA	416	40.135	-3.493	33.264	1.00	15.02
atom	3213	O	ALA	416	40.489	-4.460	33.928	1.00	19.20
atom	3214	N	PRO	417	38.939	-2.947	33.425	1.00	15.08
atom	3215	CD	PRO	417	38.235	-1.912	32.652	1.00	12.21
atom	3216	CA	PRO	417	38.135	-3.507	34.508	1.00	13.68
atom	3217	CB	PRO	417	36.989	-2.508	34.674	1.00	18.98
atom	3218	CG	PRO	417	37.110	-1.512	33.544	1.00	14.83
atom	3219	C	PRO	417	37.627	-4.915	34.303	1.00	19.04
atom	3220	O	PRO	417	37.314	-5.597	35.268	1.00	18.22
atom	3221	N	THR	418	37.546	-5.373	33.059	1.00	20.00
atom	3222	CA	THR	418	37.007	-6.709	32.851	1.00	20.89
atom	3223	CB	THR	418	36.708	-7.032	31.360	1.00	18.03
atom	3224	OG1	THR	418	37.937	-7.202	30.657	1.00	23.26
atom	3225	CG2	THR	418	35.899	-5.922	30.713	1.00	19.85
atom	3226	C	THR	418	37.886	-7.812	33.389	1.00	19.47
atom	3227	O	THR	418	39.036	-7.597	33.759	1.00	21.87

	atom	3228	N	LEU	419	37.305	-9.001	33.388	1.00	18.19
	atom	3229	CA	LEU	419	37.917	-10.204	33.863	1.00	17.41
	atom	3230	CB	LEU	419	36.788	-11.115	34.280	1.00	17.35
	atom	3231	CG	LEU	419	36.701	-12.615	34.162	1.00	17.06
	atom	3232	CD1	LEU	419	37.430	-13.251	35.320	1.00	15.19
	atom	3233	CD2	LEU	419	35.206	-13.000	34.168	1.00	2.59
	atom	3234	C	LEU	419	38.863	-10.856	32.854	1.00	21.73
	atom	3235	O	LEU	419	39.865	-11.452	33.246	1.00	25.73
	atom	3236	N	TRP	420	38.586	-10.727	31.559	1.00	19.46
	atom	3237	CA	TRP	420	39.486	-11.317	30.572	1.00	15.85
	atom	3238	CB	TRP	420	38.828	-11.420	29.185	1.00	17.26
	atom	3239	CG	TRP	420	38.072	-10.210	28.695	1.00	16.89
	atom	3240	CD2	TRP	420	38.525	-9.232	27.738	1.00	20.44
	atom	3241	CE2	TRP	420	37.459	-8.323	27.530	1.00	17.05
	atom	3242	CE3	TRP	420	39.724	-9.039	27.033	1.00	15.89
	atom	3243	CD1	TRP	420	36.790	-9.859	29.015	1.00	18.15
	atom	3244	NE1	TRP	420	36.416	-8.727	28.321	1.00	17.75
	atom	3245	CZ2	TRP	420	37.559	-7.234	26.655	1.00	21.08
	atom	3246	CZ3	TRP	420	39.817	-7.957	26.157	1.00	18.36
	atom	3247	CH2	TRP	420	38.741	-7.070	25.975	1.00	14.83
	atom	3248	C	TRP	420	40.773	-10.517	30.460	1.00	20.31
	atom	3249	O	TRP	420	41.873	-11.087	30.443	1.00	21.36
	atom	3250	N	ALA	421	40.645	-9.192	30.395	1.00	18.99
	atom	3251	CA	ALA	421	41.820	-8.323	30.278	1.00	19.53
	atom	3252	CB	ALA	421	41.381	-6.885	30.005	1.00	14.34
	atom	3253	C	ALA	421	42.723	-8.365	31.510	1.00	22.41
	atom	3254	O	ALA	421	43.950	-8.434	31.397	1.00	22.08
	atom	3255	N	ARG	422	42.103	-8.320	32.685	1.00	25.03
	atom	3256	CA	ARG	422	42.836	-8.340	33.945	1.00	25.45
	atom	3257	CB	ARG	422	41.871	-8.167	35.132	1.00	22.24
	atom	3258	CG	ARG	422	41.631	-6.722	35.541	1.00	26.34
	atom	3259	CD	ARG	422	40.429	-6.583	36.472	1.00	25.25
	atom	3260	NE	ARG	422	40.825	-6.700	37.880	1.00	31.26
	atom	3261	CZ	ARG	422	40.010	-7.084	38.859	1.00	26.82
	atom	3262	NH1	ARG	422	38.748	-7.390	38.585	1.00	25.53
	atom	3263	NH2	ARG	422	40.458	-7.149	40.107	1.00	28.34

	atom	3264	C	ARG	422	43.612	-9.635	34.129	1.00	25.74
	atom	3265	O	ARG	422	44.832	-9.624	34.302	1.00	24.21
	atom	3266	N	MET	423	42.893	-10.751	34.070	1.00	25.90
	atom	3267	CA	MET	423	43.493	-12.046	34.287	1.00	23.33
	atom	3268	CB	MET	423	42.416	-13.048	34.692	1.00	22.80
	atom	3269	CG	MET	423	41.858	-12.787	36.097	1.00	17.76
	atom	3270	SD	MET	423	40.368	-13.726	36.473	1.00	26.13
	atom	3271	CE	MET	423	41.069	-15.281	36.925	1.00	29.78
	atom	3272	C	MET	423	44.296	-12.585	33.131	1.00	27.38
	atom	3273	O	MET	423	45.426	-13.025	33.318	1.00	32.41
	atom	3274	N	ILE	424	43.738	-12.548	31.932	1.00	28.00
	atom	3275	CA	ILE	424	44.464	-13.078	30.796	1.00	28.12
	atom	3276	CB	ILE	424	43.499	-13.585	29.690	1.00	29.39
	atom	3277	CG2	ILE	424	44.250	-14.508	28.733	1.00	32.06
	atom	3278	CG1	ILE	424	42.316	-14.325	30.315	1.00	27.61
	atom	3279	CD1	ILE	424	41.834	-15.508	29.508	1.00	26.72
	atom	3280	C	ILE	424	45.456	-12.105	30.170	1.00	26.23
	atom	3281	O	ILE	424	46.645	-12.374	30.126	1.00	21.98
	atom	3282	N	LEU	425	44.973	-10.969	29.694	1.00	26.96
	atom	3283	CA	LEU	425	45.856	-10.022	29.046	1.00	23.05
	atom	3284	CB	LEU	425	45.034	-8.867	28.472	1.00	23.77
	atom	3285	CG	LEU	425	44.802	-8.870	26.943	1.00	21.55
	atom	3286	CD1	LEU	425	44.583	-10.282	26.377	1.00	21.92
	atom	3287	CD2	LEU	425	43.602	-7.999	26.653	1.00	17.53
	atom	3288	C	LEU	425	46.998	-9.519	29.926	1.00	26.70
	atom	3289	O	LEU	425	48.140	-9.950	29.742	1.00	30.65
	atom	3290	N	MET	426	46.713	-8.636	30.884	1.00	24.60
	atom	3291	CA	MET	426	47.761	-8.101	31.771	1.00	19.17
	atom	3292	CB	MET	426	47.148	-7.514	33.049	1.00	17.82
	atom	3293	CG	MET	426	46.479	-6.141	32.881	1.00	24.33
	atom	3294	SD	MET	426	45.521	-5.688	34.357	1.00	22.16
	atom	3295	CE	MET	426	44.029	-4.983	33.628	1.00	23.93
	atom	3296	C	MET	426	48.777	-9.165	32.188	1.00	19.10
	atom	3297	O	MET	426	49.989	-8.979	32.054	1.00	12.33
	atom	3298	N	THR	427	48.267	-10.281	32.700	1.00	18.78
	atom	3299	CA	THR	427	49.125	-11.352	33.182	1.00	21.30

atom	3300	CB	THR	427	48.283	-12.569	33.636	1.00	20.56
atom	3301	OG1	THR	427	47.293	-12.125	34.571	1.00	21.39
atom	3302	CG2	THR	427	49.155	-13.620	34.317	1.00	18.69
atom	3303	C	THR	427	50.149	-11.783	32.149	1.00	25.61
atom	3304	O	THR	427	51.348	-11.796	32.435	1.00	23.48
atom	3305	N	HIS	428	49.671	-12.071	30.934	1.00	29.58
atom	3306	CA	HIS	428	50.514	-12.543	29.834	1.00	25.46
atom	3307	CB	HIS	428	49.628	-13.067	28.688	1.00	25.48
atom	3308	CG	HIS	428	50.383	-13.412	27.438	1.00	28.07
atom	3309	CD2	HIS	428	50.706	-14.609	26.893	1.00	26.29
atom	3310	ND1	HIS	428	50.920	-12.456	26.599	1.00	32.13
atom	3311	CE1	HIS	428	51.541	-13.049	25.595	1.00	28.43
atom	3312	NE2	HIS	428	51.425	-14.355	25.750	1.00	27.25
atom	3313	C	HIS	428	51.553	-11.574	29.270	1.00	23.01
atom	3314	O	HIS	428	52.687	-11.962	29.011	1.00	24.23
atom	3315	N	PHE	429	51.192	-10.318	29.086	1.00	21.06
atom	3316	CA	PHE	429	52.150	-9.404	28.496	1.00	22.48
atom	3317	CB	PHE	429	51.430	-8.262	27.773	1.00	25.70
atom	3318	CG	PHE	429	50.958	-8.633	26.394	1.00	28.92
atom	3319	CD1	PHE	429	49.682	-9.146	26.200	1.00	26.69
atom	3320	CD2	PHE	429	51.804	-8.501	25.291	1.00	27.61
atom	3321	CE1	PHE	429	49.252	-9.529	24.932	1.00	31.49
atom	3322	CE2	PHE	429	51.380	-8.883	24.017	1.00	27.65
atom	3323	CZ	PHE	429	50.105	-9.398	23.835	1.00	26.84
atom	3324	C	PHE	429	53.137	-8.872	29.492	1.00	20.77
atom	3325	O	PHE	429	54.265	-8.563	29.139	1.00	21.91
atom	3326	N	PHE	430	52.733	-8.751	30.745	1.00	22.30
atom	3327	CA	PHE	430	53.700	-8.286	31.726	1.00	22.59
atom	3328	CB	PHE	430	53.033	-7.977	33.072	1.00	24.91
atom	3329	CG	PHE	430	52.774	-6.514	33.259	1.00	26.03
atom	3330	CD1	PHE	430	51.602	-5.939	32.762	1.00	30.68
atom	3331	CD2	PHE	430	53.749	-5.686	33.811	1.00	20.79
atom	3332	CE1	PHE	430	51.415	-4.553	32.802	1.00	28.98
atom	3333	CE2	PHE	430	53.572	-4.323	33.855	1.00	21.47
atom	3334	CZ	PHE	430	52.405	-3.747	33.348	1.00	22.42
atom	3335	C	PHE	430	54.799	-9.330	31.867	1.00	13.18

atom	3336	O	PHE	430	55.966	-8.994	31.865	1.00	12.59
atom	3337	N	SER	431	54.435	-10.596	31.928	1.00	11.96
atom	3338	CA	SER	431	55.455	-11.637	32.033	1.00	20.34
atom	3339	CB	SER	431	54.813	-13.002	32.226	1.00	20.23
atom	3340	OG	SER	431	55.091	-13.821	31.115	1.00	30.81
atom	3341	C	SER	431	56.344	-11.684	30.794	1.00	23.41
atom	3342	O	SER	431	57.555	-11.847	30.903	1.00	22.98
atom	3343	N	ILE	432	55.732	-11.548	29.617	1.00	26.02
atom	3344	CA	ILE	432	56.470	-11.565	28.354	1.00	24.15
atom	3345	CB	ILE	432	55.507	-11.580	27.130	1.00	29.47
atom	3346	CG2	ILE	432	56.290	-11.349	25.834	1.00	26.68
atom	3347	CG1	ILE	432	54.737	-12.905	27.079	1.00	23.71
atom	3348	CD1	ILE	432	55.608	-14.126	26.962	1.00	28.14
atom	3349	C	ILE	432	57.348	-10.329	28.264	1.00	23.16
atom	3350	O	ILE	432	58.558	-10.426	28.106	1.00	23.35
atom	3351	N	LEU	433	56.724	-9.164	28.371	1.00	23.94
atom	3352	CA	LEU	433	57.435	-7.894	28.309	1.00	28.88
atom	3353	CB	LEU	433	56.441	-6.747	28.501	1.00	30.58
atom	3354	CG	LEU	433	56.346	-5.678	27.407	1.00	33.37
atom	3355	CD1	LEU	433	56.205	-6.322	26.028	1.00	32.23
atom	3356	CD2	LEU	433	55.145	-4.785	27.718	1.00	36.50
atom	3357	C	LEU	433	58.553	-7.817	29.363	1.00	31.43
atom	3358	O	LEU	433	59.625	-7.268	29.121	1.00	31.96
atom	3359	N	LEU	434	58.284	-8.367	30.540	1.00	34.05
atom	3360	CA	LEU	434	59.254	-8.402	31.629	1.00	32.03
atom	3361	CB	LEU	434	58.606	-9.059	32.855	1.00	33.37
atom	3362	CG	LEU	434	59.129	-8.941	34.288	1.00	31.50
atom	3363	CD1	LEU	434	59.629	-7.550	34.594	1.00	34.29
atom	3364	CD2	LEU	434	57.989	-9.282	35.220	1.00	34.33
atom	3365	C	LEU	434	60.470	-9.231	31.203	1.00	30.59
atom	3366	O	LEU	434	61.612	-8.795	31.326	1.00	30.54
atom	3367	N	ALA	435	60.200	-10.429	30.696	1.00	28.04
atom	3368	CA	ALA	435	61.236	-11.357	30.283	1.00	27.70
atom	3369	CB	ALA	435	60.606	-12.560	29.606	1.00	23.29
atom	3370	C	ALA	435	62.303	-10.759	29.389	1.00	31.48
atom	3371	O	ALA	435	63.493	-10.976	29.618	1.00	37.97

	atom	3372	N	GLN	436	61.890	-10.007	28.379	1.00	33.13
	atom	3373	CA	GLN	436	62.827	-9.398	27.444	1.00	34.38
	atom	3374	CB	GLN	436	62.195	-9.358	26.051	1.00	33.83
	atom	3375	CG	GLN	436	61.279	-10.536	25.748	1.00	36.51
	atom	3376	CD	GLN	436	60.003	-10.132	25.018	1.00	42.61
	atom	3377	OE1	GLN	436	59.401	-9.102	25.321	1.00	44.59
	atom	3378	NE2	GLN	436	59.585	-10.948	24.051	1.00	42.60
	atom	3379	C	GLN	436	63.300	-7.991	27.832	1.00	35.80
	atom	3380	O	GLN	436	63.988	-7.329	27.065	1.00	34.86
	atom	3381	N	GLU	437	62.953	-7.537	29.028	1.00	39.49
	atom	3382	CA	GLU	437	63.343	-6.191	29.471	1.00	45.63
	atom	3383	CB	GLU	437	64.878	-6.048	29.504	1.00	47.97
	atom	3384	CG	GLU	437	65.637	-7.268	30.035	1.00	51.93
	atom	3385	CD	GLU	437	65.701	-7.312	31.563	1.00	56.66
	atom	3386	OE1	GLU	437	65.318	-6.303	32.208	1.00	56.30
	atom	3387	OE2	GLU	437	66.128	-8.355	32.117	1.00	50.71
	atom	3388	C	GLU	437	62.733	-5.103	28.553	1.00	45.05
	atom	3389	O	GLU	437	63.433	-4.196	28.096	1.00	40.40
	atom	3390	N	GLN	438	61.422	-5.206	28.316	1.00	44.81
	atom	3391	CA	GLN	438	60.671	-4.273	27.467	1.00	44.57
	atom	3392	CB	GLN	438	59.854	-5.054	26.427	1.00	43.31
	atom	3393	CG	GLN	438	60.666	-5.719	25.329	1.00	41.52
	atom	3394	CD	GLN	438	61.618	-4.766	24.653	1.00	39.73
	atom	3395	OE1	GLN	438	61.417	-3.560	24.682	1.00	39.88
	atom	3396	NE2	GLN	438	62.669	-5.304	24.040	1.00	40.97
	atom	3397	C	GLN	438	59.709	-3.302	28.191	1.00	44.17
	atom	3398	O	GLN	438	59.284	-2.309	27.600	1.00	47.18
	atom	3399	N	LEU	439	59.358	-3.591	29.443	1.00	39.41
	atom	3400	CA	LEU	439	58.437	-2.757	30.234	1.00	35.63
	atom	3401	CB	LEU	439	58.619	-3.047	31.725	1.00	36.65
	atom	3402	CG	LEU	439	57.675	-3.977	32.484	1.00	35.38
	atom	3403	CD1	LEU	439	56.661	-4.630	31.580	1.00	37.24
	atom	3404	CD2	LEU	439	58.520	-5.014	33.152	1.00	35.93
	atom	3405	C	LEU	439	58.533	-1.240	30.046	1.00	34.88
	atom	3406	O	LEU	439	57.513	-0.533	30.050	1.00	31.04
	atom	3407	N	GLU	440	59.752	-0.732	29.900	1.00	31.23

	atom	3408	CA	GLU	440	59.929	0.700	29.749	1.00	34.08
	atom	3409	CB	GLU	440	61.203	1.137	30.471	1.00	36.60
	atom	3410	CG	GLU	440	61.344	0.546	31.869	1.00	46.25
	atom	3411	CD	GLU	440	62.326	-0.619	31.917	1.00	51.65
	atom	3412	OE1	GLU	440	62.004	-1.705	31.381	1.00	55.45
	atom	3413	OE2	GLU	440	63.425	-0.451	32.489	1.00	56.28
	atom	3414	C	GLU	440	59.933	1.195	28.297	1.00	33.24
	atom	3415	O	GLU	440	60.157	2.383	28.047	1.00	32.66
	atom	3416	N	LYS	441	59.674	0.288	27.357	1.00	29.40
	atom	3417	CA	LYS	441	59.625	0.618	25.933	1.00	32.91
	atom	3418	CB	LYS	441	60.021	-0.616	25.097	1.00	35.80
	atom	3419	CG	LYS	441	59.636	-0.582	23.593	1.00	44.21
	atom	3420	CD	LYS	441	59.066	-1.942	23.090	1.00	43.76
	atom	3421	CE	LYS	441	59.752	-2.436	21.800	1.00	42.14
	atom	3422	NZ	LYS	441	59.679	-3.931	21.557	1.00	32.91
	atom	3423	C	LYS	441	58.202	1.057	25.586	1.00	32.30
	atom	3424	O	LYS	441	57.277	0.247	25.575	1.00	34.79
	atom	3425	N	ALA	442	58.011	2.341	25.328	1.00	32.09
	atom	3426	CA	ALA	442	56.679	2.814	24.988	1.00	34.73
	atom	3427	CB	ALA	442	56.654	4.321	24.923	1.00	34.99
	atom	3428	C	ALA	442	56.272	2.233	23.646	1.00	35.06
	atom	3429	O	ALA	442	57.004	2.353	22.667	1.00	34.73
	atom	3430	N	LEU	443	55.107	1.597	23.612	1.00	34.80
	atom	3431	CA	LEU	443	54.583	1.006	22.388	1.00	32.57
	atom	3432	CB	LEU	443	54.064	-0.403	22.665	1.00	32.82
	atom	3433	CG	LEU	443	54.984	-1.291	23.493	1.00	31.23
	atom	3434	CD1	LEU	443	54.192	-2.002	24.599	1.00	29.05
	atom	3435	CD2	LEU	443	55.669	-2.279	22.557	1.00	27.43
	atom	3436	C	LEU	443	53.444	1.873	21.859	1.00	33.71
	atom	3437	O	LEU	443	52.839	2.644	22.602	1.00	32.92
	atom	3438	N	ASP	444	53.166	1.754	20.569	1.00	34.97
	atom	3439	CA	ASP	444	52.098	2.517	19.940	1.00	34.69
	atom	3440	CB	ASP	444	52.472	2.874	18.505	1.00	35.84
	atom	3441	CG	ASP	444	53.339	4.102	18.421	1.00	40.11
	atom	3442	OD1	ASP	444	53.370	4.882	19.394	1.00	47.24
	atom	3443	OD2	ASP	444	53.996	4.295	17.382	1.00	43.96

atom	3444	C	ASP	444	50.868	1.635	19.921	1.00	36.94
atom	3445	O	ASP	444	50.976	0.412	19.918	1.00	42.96
atom	3446	N	CYS	445	49.700	2.255	19.911	1.00	35.62
atom	3447	CA	CYS	445	48.446	1.530	19.876	1.00	32.06
atom	3448	CB	CYS	445	48.165	0.899	21.244	1.00	31.49
atom	3449	SG	CYS	445	47.942	2.070	22.618	1.00	32.37
atom	3450	C	CYS	445	47.427	2.596	19.526	1.00	34.19
atom	3451	O	CYS	445	47.747	3.783	19.552	1.00	36.00
atom	3452	N	GLN	446	46.208	2.210	19.189	1.00	38.21
atom	3453	CA	GLN	446	45.232	3.232	18.843	1.00	40.12
atom	3454	CB	GLN	446	44.836	3.088	17.375	1.00	43.49
atom	3455	CG	GLN	446	44.134	1.781	17.046	1.00	52.73
atom	3456	CD	GLN	446	43.416	1.812	15.698	1.00	53.41
atom	3457	OE1	GLN	446	42.751	2.793	15.356	1.00	52.33
atom	3458	NE2	GLN	446	43.547	0.729	14.931	1.00	52.81
atom	3459	C	GLN	446	43.984	3.293	19.738	1.00	38.91
atom	3460	O	GLN	446	43.387	2.275	20.087	1.00	37.38
atom	3461	N	ILE	447	43.621	4.514	20.115	1.00	35.95
atom	3462	CA	ILE	447	42.458	4.779	20.950	1.00	35.14
atom	3463	CB	ILE	447	42.826	5.654	22.194	1.00	35.06
atom	3464	CG2	ILE	447	41.566	6.057	22.954	1.00	28.93
atom	3465	CG1	ILE	447	43.773	4.894	23.124	1.00	35.72
atom	3466	CD1	ILE	447	44.576	5.816	24.017	1.00	35.52
atom	3467	C	ILE	447	41.499	5.578	20.071	1.00	36.57
atom	3468	O	ILE	447	41.780	6.736	19.729	1.00	37.05
atom	3469	N	TYR	448	40.380	4.969	19.687	1.00	32.88
atom	3470	CA	TYR	448	39.405	5.666	18.850	1.00	29.32
atom	3471	CB	TYR	448	38.867	6.903	19.574	1.00	30.94
atom	3472	CG	TYR	448	37.916	6.619	20.725	1.00	35.92
atom	3473	CD1	TYR	448	37.379	7.668	21.478	1.00	34.37
atom	3474	CE1	TYR	448	36.485	7.425	22.517	1.00	32.55
atom	3475	CD2	TYR	448	37.529	5.308	21.049	1.00	33.84
atom	3476	CE2	TYR	448	36.634	5.058	22.090	1.00	32.27
atom	3477	CZ	TYR	448	36.118	6.124	22.819	1.00	33.86
atom	3478	OH	TYR	448	35.242	5.899	23.863	1.00	34.45
atom	3479	C	TYR	448	39.994	6.105	17.513	1.00	26.03

atom	3480	O	TYR	448	39.660	7.168	17.007	1.00	25.23
atom	3481	N	GLY	449	40.892	5.303	16.955	1.00	25.14
atom	3482	CA	GLY	449	41.467	5.646	15.665	1.00	30.15
atom	3483	C	GLY	449	42.817	6.336	15.692	1.00	29.86
atom	3484	O	GLY	449	43.684	6.062	14.857	1.00	31.59
atom	3485	N	ALA	450	42.993	7.258	16.626	1.00	30.00
atom	3486	CA	ALA	450	44.265	7.942	16.740	1.00	27.32
atom	3487	CB	ALA	450	44.132	9.207	17.585	1.00	29.76
atom	3488	C	ALA	450	45.190	6.951	17.423	1.00	27.92
atom	3489	O	ALA	450	44.768	6.122	18.240	1.00	21.53
atom	3490	N	CYS	451	46.456	7.022	17.057	1.00	29.64
atom	3491	CA	CYS	451	47.436	6.141	17.640	1.00	33.17
atom	3492	CB	CYS	451	48.345	5.611	16.524	1.00	27.89
atom	3493	SG	CYS	451	50.112	5.858	16.743	1.00	35.52
atom	3494	C	CYS	451	48.185	6.956	18.720	1.00	31.89
atom	3495	O	CYS	451	48.393	8.168	18.586	1.00	29.04
atom	3496	N	TYR	452	48.539	6.309	19.821	1.00	31.86
atom	3497	CA	TYR	452	49.242	7.028	20.878	1.00	35.81
atom	3498	CB	TYR	452	48.324	7.220	22.095	1.00	34.55
atom	3499	CG	TYR	452	47.172	8.175	21.868	1.00	35.92
atom	3500	CD1	TYR	452	45.941	7.719	21.381	1.00	39.87
atom	3501	CE1	TYR	452	44.862	8.594	21.203	1.00	37.75
atom	3502	CD2	TYR	452	47.298	9.526	22.161	1.00	35.65
atom	3503	CE2	TYR	452	46.230	10.403	21.987	1.00	39.32
atom	3504	CZ	TYR	452	45.021	9.935	21.509	1.00	38.29
atom	3505	OH	TYR	452	43.981	10.820	21.357	1.00	44.55
atom	3506	C	TYR	452	50.531	6.336	21.319	1.00	35.46
atom	3507	O	TYR	452	50.795	5.173	20.975	1.00	34.31
atom	3508	N	SER	453	51.339	7.067	22.074	1.00	34.30
atom	3509	CA	SER	453	52.563	6.500	22.581	1.00	38.03
atom	3510	CB	SER	453	53.733	7.413	22.256	1.00	41.05
atom	3511	OG	SER	453	54.223	7.101	20.955	1.00	47.23
atom	3512	C	SER	453	52.405	6.315	24.078	1.00	35.40
atom	3513	O	SER	453	52.534	7.261	24.846	1.00	35.22
atom	3514	N	ILE	454	52.109	5.084	24.476	1.00	33.48
atom	3515	CA	ILE	454	51.903	4.767	25.877	1.00	36.42

	atom	3516	CB	ILE	454	50.510	4.148	26.088	1.00	36.41
	atom	3517	CG2	ILE	454	50.079	4.305	27.540	1.00	33.83
	atom	3518	CG1	ILE	454	49.514	4.827	25.157	1.00	35.30
	atom	3519	CD1	ILE	454	48.079	4.660	25.578	1.00	44.75
	atom	3520	C	ILE	454	52.938	3.818	26.461	1.00	37.22
	atom	3521	O	ILE	454	53.294	2.806	25.854	1.00	38.43
	atom	3522	N	GLU	455	53.417	4.153	27.654	1.00	38.85
	atom	3523	CA	GLU	455	54.386	3.317	28.343	1.00	37.89
	atom	3524	CB	GLU	455	55.300	4.174	29.215	1.00	44.07
	atom	3525	CG	GLU	455	56.360	3.369	29.960	1.00	54.04
	atom	3526	CD	GLU	455	57.480	4.247	30.509	1.00	61.38
	atom	3527	OE1	GLU	455	57.521	5.453	30.145	1.00	60.82
	atom	3528	OE2	GLU	455	58.313	3.730	31.300	1.00	58.53
	atom	3529	C	GLU	455	53.602	2.351	29.216	1.00	33.96
	atom	3530	O	GLU	455	52.775	2.765	30.026	1.00	31.59
	atom	3531	N	PRO	456	53.844	1.045	29.061	1.00	32.69
	atom	3532	CD	PRO	456	54.779	0.431	28.107	1.00	31.89
	atom	3533	CA	PRO	456	53.117	0.056	29.870	1.00	34.87
	atom	3534	CB	PRO	456	53.615	-1.300	29.346	1.00	31.61
	atom	3535	CG	PRO	456	54.819	-1.005	28.540	1.00	31.68
	atom	3536	C	PRO	456	53.241	0.186	31.404	1.00	35.06
	atom	3537	O	PRO	456	52.373	-0.286	32.150	1.00	35.96
	atom	3538	N	LEU	457	54.302	0.826	31.880	1.00	31.41
	atom	3539	CA	LEU	457	54.464	0.990	33.318	1.00	31.83
	atom	3540	CB	LEU	457	55.936	1.214	33.668	1.00	21.51
	atom	3541	CG	LEU	457	56.746	-0.081	33.628	1.00	22.27
	atom	3542	CD1	LEU	457	58.182	0.232	33.223	1.00	18.61
	atom	3543	CD2	LEU	457	56.697	-0.781	34.997	1.00	22.63
	atom	3544	C	LEU	457	53.603	2.147	33.841	1.00	33.12
	atom	3545	O	LEU	457	53.574	2.425	35.046	1.00	36.08
	atom	3546	N	ASP	458	52.899	2.812	32.932	1.00	33.35
	atom	3547	CA	ASP	458	52.026	3.920	33.306	1.00	31.48
	atom	3548	CB	ASP	458	52.074	5.004	32.219	1.00	31.92
	atom	3549	CG	ASP	458	53.235	5.977	32.401	1.00	35.20
	atom	3550	OD1	ASP	458	53.988	5.831	33.385	1.00	40.06
	atom	3551	OD2	ASP	458	53.398	6.891	31.562	1.00	32.72

	atom	3552	C	ASP	458	50.579	3.402	33.492	1.00	30.57
	atom	3553	O	ASP	458	49.716	4.104	34.020	1.00	29.93
	atom	3554	N	LEU	459	50.337	2.160	33.079	1.00	29.54
	atom	3555	CA	LEU	459	49.011	1.552	33.172	1.00	32.41
	atom	3556	CB	LEU	459	49.097	0.036	32.962	1.00	31.91
	atom	3557	CG	LEU	459	48.435	-0.559	31.712	1.00	31.59
	atom	3558	CD1	LEU	459	47.692	0.510	30.923	1.00	30.88
	atom	3559	CD2	LEU	459	49.508	-1.226	30.839	1.00	33.41
	atom	3560	C	LEU	459	48.187	1.837	34.422	1.00	31.36
	atom	3561	O	LEU	459	47.092	2.379	34.314	1.00	35.42
	atom	3562	N	PRO	460	48.680	1.471	35.618	1.00	31.69
	atom	3563	CD	PRO	460	49.948	0.798	35.949	1.00	37.70
	atom	3564	CA	PRO	460	47.893	1.742	36.824	1.00	31.94
	atom	3565	CB	PRO	460	48.867	1.443	37.961	1.00	34.04
	atom	3566	CG	PRO	460	49.768	0.421	37.403	1.00	34.31
	atom	3567	C	PRO	460	47.370	3.172	36.869	1.00	31.06
	atom	3568	O	PRO	460	46.207	3.404	37.171	1.00	32.13
	atom	3569	N	GLN	461	48.240	4.122	36.559	1.00	34.11
	atom	3570	CA	GLN	461	47.877	5.542	36.539	1.00	38.17
	atom	3571	CB	GLN	461	49.088	6.398	36.121	1.00	38.18
	atom	3572	CG	GLN	461	50.311	6.252	37.023	1.00	42.90
	atom	3573	CD	GLN	461	51.124	5.006	36.725	1.00	46.75
	atom	3574	OE1	GLN	461	50.761	3.892	37.128	1.00	47.13
	atom	3575	NE2	GLN	461	52.237	5.186	36.018	1.00	48.03
	atom	3576	C	GLN	461	46.734	5.780	35.549	1.00	34.45
	atom	3577	O	GLN	461	45.742	6.418	35.873	1.00	33.29
	atom	3578	N	ILE	462	46.894	5.256	34.340	1.00	30.87
	atom	3579	CA	ILE	462	45.895	5.408	33.289	1.00	28.05
	atom	3580	CB	ILE	462	46.406	4.806	31.963	1.00	28.23
	atom	3581	CG2	ILE	462	45.305	4.784	30.928	1.00	21.36
	atom	3582	CG1	ILE	462	47.603	5.621	31.466	1.00	28.26
	atom	3583	CD1	ILE	462	48.241	5.073	30.227	1.00	30.74
	atom	3584	C	ILE	462	44.607	4.712	33.688	1.00	27.56
	atom	3585	O	ILE	462	43.534	5.332	33.726	1.00	27.06
	atom	3586	N	ILE	463	44.725	3.424	33.996	1.00	22.72
	atom	3587	CA	ILE	463	43.574	2.636	34.400	1.00	20.93

	atom	3588	CB	ILE	463	44.003	1.216	34.896	1.00	21.25
	atom	3589	CG2	ILE	463	42.817	0.479	35.517	1.00	18.27
	atom	3590	CG1	ILE	463	44.537	0.396	33.715	1.00	16.48
	atom	3591	CD1	ILE	463	45.126	-0.924	34.099	1.00	9.67
	atom	3592	C	ILE	463	42.758	3.351	35.480	1.00	19.90
	atom	3593	O	ILE	463	41.537	3.416	35.375	1.00	22.61
	atom	3594	N	GLU	464	43.418	3.903	36.497	1.00	22.67
	atom	3595	CA	GLU	464	42.710	4.592	37.581	1.00	23.09
	atom	3596	CB	GLU	464	43.654	4.981	38.726	1.00	22.31
	atom	3597	CG	GLU	464	42.882	5.206	40.033	1.00	24.89
	atom	3598	CD	GLU	464	43.508	6.229	40.954	1.00	22.17
	atom	3599	OE1	GLU	464	43.109	7.406	40.905	1.00	31.72
	atom	3600	OE2	GLU	464	44.390	5.865	41.738	1.00	16.70
	atom	3601	C	GLU	464	41.959	5.840	37.132	1.00	25.17
	atom	3602	O	GLU	464	40.845	6.102	37.610	1.00	21.06
	atom	3603	N	ARG	465	42.562	6.609	36.225	1.00	24.41
	atom	3604	CA	ARG	465	41.920	7.818	35.729	1.00	25.52
	atom	3605	CB	ARG	465	42.908	8.681	34.943	1.00	31.25
	atom	3606	CG	ARG	465	43.219	10.019	35.642	1.00	39.07
	atom	3607	CD	ARG	465	42.685	11.216	34.860	1.00	43.22
	atom	3608	NE	ARG	465	43.641	12.326	34.767	1.00	47.82
	atom	3609	CZ	ARG	465	44.942	12.198	34.504	1.00	50.16
	atom	3610	NH1	ARG	465	45.481	11.002	34.303	1.00	51.31
	atom	3611	NH2	ARG	465	45.711	13.276	34.421	1.00	50.41
	atom	3612	C	ARG	465	40.700	7.524	34.864	1.00	22.97
	atom	3613	O	ARG	465	39.681	8.210	34.986	1.00	17.94
	atom	3614	N	LEU	466	40.800	6.486	34.031	1.00	19.59
	atom	3615	CA	LEU	466	39.729	6.087	33.122	1.00	24.29
	atom	3616	CB	LEU	466	40.314	5.360	31.904	1.00	22.68
	atom	3617	CG	LEU	466	41.009	6.289	30.905	1.00	31.93
	atom	3618	CD1	LEU	466	41.374	5.545	29.624	1.00	31.87
	atom	3619	CD2	LEU	466	40.074	7.457	30.599	1.00	36.14
	atom	3620	C	LEU	466	38.609	5.227	33.692	1.00	27.95
	atom	3621	O	LEU	466	37.461	5.286	33.219	1.00	30.02
	atom	3622	N	HIS	467	38.923	4.420	34.693	1.00	26.38
	atom	3623	CA	HIS	467	37.901	3.554	35.240	1.00	28.67

atom	3624	CB	HIS	467	38.215	2.094	34.905	1.00	28.83
atom	3625	CG	HIS	467	38.546	1.853	33.465	1.00	28.42
atom	3626	CD2	HIS	467	39.716	1.958	32.789	1.00	28.48
atom	3627	ND1	HIS	467	37.620	1.385	32.557	1.00	29.37
atom	3628	CE1	HIS	467	38.205	1.209	31.386	1.00	23.72
atom	3629	NE2	HIS	467	39.478	1.549	31.501	1.00	26.25
atom	3630	C	HIS	467	37.681	3.673	36.734	1.00	28.76
atom	3631	O	HIS	467	36.669	3.188	37.246	1.00	31.17
atom	3632	N	GLY	468	38.611	4.313	37.435	1.00	27.32
atom	3633	CA	GLY	468	38.475	4.421	38.875	1.00	24.96
atom	3634	C	GLY	468	39.180	3.265	39.570	1.00	26.11
atom	3635	O	GLY	468	39.347	2.187	38.992	1.00	20.04
atom	3636	N	LEU	469	39.604	3.504	40.810	1.00	28.32
atom	3637	CA	LEU	469	40.303	2.506	41.619	1.00	31.09
atom	3638	CB	LEU	469	40.497	3.027	43.050	1.00	34.04
atom	3639	CG	LEU	469	41.631	2.433	43.893	1.00	33.39
atom	3640	CD1	LEU	469	42.976	2.827	43.310	1.00	29.13
atom	3641	CD2	LEU	469	41.509	2.939	45.332	1.00	36.67
atom	3642	C	LEU	469	39.572	1.177	41.669	1.00	30.69
atom	3643	O	LEU	469	40.203	0.121	41.757	1.00	32.77
atom	3644	N	SER	470	38.243	1.240	41.617	1.00	28.25
atom	3645	CA	SER	470	37.399	0.050	41.658	1.00	26.30
atom	3646	CB	SER	470	35.967	0.416	41.294	1.00	29.68
atom	3647	OG	SER	470	35.871	0.665	39.903	1.00	32.61
atom	3648	C	SER	470	37.896	-0.988	40.677	1.00	26.83
atom	3649	O	SER	470	37.786	-2.187	40.908	1.00	29.66
atom	3650	N	ALA	471	38.433	-0.501	39.569	1.00	27.16
atom	3651	CA	ALA	471	38.957	-1.346	38.518	1.00	25.29
atom	3652	CB	ALA	471	39.607	-0.481	37.436	1.00	23.68
atom	3653	C	ALA	471	39.970	-2.327	39.081	1.00	24.06
atom	3654	O	ALA	471	40.142	-3.416	38.556	1.00	21.95
atom	3655	N	PHE	472	40.648	-1.940	40.151	1.00	22.90
atom	3656	CA	PHE	472	41.631	-2.831	40.745	1.00	22.67
atom	3657	CB	PHE	472	42.758	-2.010	41.375	1.00	21.44
atom	3658	CG	PHE	472	43.412	-1.035	40.424	1.00	22.73
atom	3659	CD1	PHE	472	43.519	0.321	40.750	1.00	25.96

atom	3660	CD2	PHE	472	43.936	-1.467	39.207	1.00	22.57
atom	3661	CE1	PHE	472	44.145	1.241	39.863	1.00	24.45
atom	3662	CE2	PHE	472	44.567	-0.560	38.312	1.00	19.58
atom	3663	CZ	PHE	472	44.668	0.791	38.642	1.00	18.43
atom	3664	C	PHE	472	41.045	-3.806	41.780	1.00	19.61
atom	3665	O	PHE	472	41.796	-4.509	42.433	1.00	20.06
atom	3666	N	SER	473	39.717	-3.887	41.889	1.00	17.33
atom	3667	CA	SER	473	39.087	-4.771	42.864	1.00	19.26
atom	3668	CB	SER	473	38.894	-4.015	44.182	1.00	15.31
atom	3669	OG	SER	473	39.568	-2.768	44.152	1.00	22.47
atom	3670	C	SER	473	37.747	-5.447	42.501	1.00	24.97
atom	3671	O	SER	473	37.088	-6.025	43.390	1.00	26.79
atom	3672	N	LEU	474	37.322	-5.384	41.239	1.00	19.87
atom	3673	CA	LEU	474	36.064	-6.032	40.853	1.00	17.55
atom	3674	CB	LEU	474	35.741	-5.734	39.398	1.00	16.67
atom	3675	CG	LEU	474	35.419	-4.253	39.139	1.00	19.81
atom	3676	CD1	LEU	474	35.037	-4.078	37.684	1.00	16.66
atom	3677	CD2	LEU	474	34.284	-3.777	40.027	1.00	19.28
atom	3678	C	LEU	474	36.195	-7.544	41.097	1.00	16.76
atom	3679	O	LEU	474	37.261	-8.115	40.867	1.00	14.80
atom	3680	N	HIS	475	35.122	-8.183	41.577	1.00	17.09
atom	3681	CA	HIS	475	35.189	-9.595	41.917	1.00	20.48
atom	3682	CB	HIS	475	35.651	-9.737	43.382	1.00	23.75
atom	3683	CG	HIS	475	34.738	-9.069	44.373	1.00	23.68
atom	3684	CD2	HIS	475	34.748	-7.811	44.893	1.00	23.89
atom	3685	ND1	HIS	475	33.598	-9.668	44.857	1.00	15.87
atom	3686	CE1	HIS	475	32.939	-8.815	45.623	1.00	18.64
atom	3687	NE2	HIS	475	33.619	-7.680	45.660	1.00	17.92
atom	3688	C	HIS	475	33.972	-10.490	41.703	1.00	23.35
atom	3689	O	HIS	475	34.113	-11.667	41.395	1.00	32.81
atom	3690	N	SER	476	32.772	-9.986	41.864	1.00	23.75
atom	3691	CA	SER	476	31.647	-10.896	41.683	1.00	25.31
atom	3692	CB	SER	476	30.632	-10.674	42.808	1.00	25.03
atom	3693	OG	SER	476	31.256	-10.944	44.047	1.00	25.05
atom	3694	C	SER	476	31.016	-10.707	40.311	1.00	26.91
atom	3695	O	SER	476	29.891	-10.203	40.189	1.00	21.63

atom	3696	N	TYR	477	31.774	-11.114	39.287	1.00	27.12
atom	3697	CA	TYR	477	31.382	-10.999	37.888	1.00	20.57
atom	3698	CB	TYR	477	32.517	-11.476	36.980	1.00	19.34
atom	3699	CG	TYR	477	33.662	-10.492	36.852	1.00	18.80
atom	3700	CD1	TYR	477	34.885	-10.722	37.514	1.00	19.07
atom	3701	CE1	TYR	477	35.955	-9.831	37.400	1.00	13.98
atom	3702	CD2	TYR	477	33.541	-9.339	36.067	1.00	13.86
atom	3703	CE2	TYR	477	34.615	-8.434	35.942	1.00	13.49
atom	3704	CZ	TYR	477	35.817	-8.689	36.612	1.00	16.89
atom	3705	OH	TYR	477	36.878	-7.817	36.501	1.00	14.53
atom	3706	C	TYR	477	30.126	-11.777	37.577	1.00	21.86
atom	3707	O	TYR	477	29.913	-12.852	38.113	1.00	16.61
atom	3708	N	SER	478	29.304	-11.219	36.686	1.00	25.77
atom	3709	CA	SER	478	28.030	-11.820	36.285	1.00	27.29
atom	3710	CB	SER	478	27.289	-10.875	35.339	1.00	28.80
atom	3711	OG	SER	478	27.483	-9.522	35.731	1.00	40.31
atom	3712	C	SER	478	28.165	-13.186	35.628	1.00	27.44
atom	3713	O	SER	478	29.099	-13.423	34.876	1.00	31.57
atom	3714	N	PRO	479	27.229	-14.109	35.910	1.00	25.94
atom	3715	CD	PRO	479	26.087	-13.974	36.828	1.00	22.83
atom	3716	CA	PRO	479	27.286	-15.450	35.314	1.00	21.99
atom	3717	CB	PRO	479	26.038	-16.131	35.859	1.00	21.63
atom	3718	CG	PRO	479	25.779	-15.415	37.166	1.00	24.95
atom	3719	C	PRO	479	27.302	-15.373	33.790	1.00	22.09
atom	3720	O	PRO	479	27.898	-16.206	33.104	1.00	16.28
atom	3721	N	GLY	480	26.642	-14.362	33.253	1.00	25.56
atom	3722	CA	GLY	480	26.652	-14.222	31.808	1.00	30.51
atom	3723	C	GLY	480	28.071	-13.966	31.315	1.00	29.37
atom	3724	O	GLY	480	28.544	-14.612	30.382	1.00	32.55
atom	3725	N	GLU	481	28.757	-13.031	31.971	1.00	28.12
atom	3726	CA	GLU	481	30.112	-12.654	31.609	1.00	23.84
atom	3727	CB	GLU	481	30.521	-11.414	32.406	1.00	20.37
atom	3728	CG	GLU	481	31.903	-10.903	32.070	1.00	21.27
atom	3729	CD	GLU	481	31.929	-10.215	30.731	1.00	19.94
atom	3730	OE1	GLU	481	30.873	-10.180	30.074	1.00	20.91
atom	3731	OE2	GLU	481	32.994	-9.713	30.343	1.00	14.84

atom	3732	C	GLU	481	31.123	-13.782	31.811	1.00	23.04
atom	3733	O	GLU	481	31.966	-14.028	30.958	1.00	25.54
atom	3734	N	ILE	482	31.040	-14.470	32.937	1.00	23.36
atom	3735	CA	ILE	482	31.963	-15.565	33.220	1.00	22.76
atom	3736	CB	ILE	482	31.638	-16.214	34.601	1.00	19.81
atom	3737	CG2	ILE	482	32.395	-17.523	34.778	1.00	15.83
atom	3738	CG1	ILE	482	32.010	-15.250	35.739	1.00	23.83
atom	3739	CD1	ILE	482	31.125	-15.395	36.991	1.00	10.56
atom	3740	C	ILE	482	31.881	-16.636	32.132	1.00	22.80
atom	3741	O	ILE	482	32.896	-17.185	31.692	1.00	19.29
atom	3742	N	ASN	483	30.659	-16.923	31.699	1.00	24.99
atom	3743	CA	ASN	483	30.435	-17.945	30.698	1.00	26.00
atom	3744	CB	ASN	483	28.969	-18.345	30.716	1.00	28.37
atom	3745	CG	ASN	483	28.590	-19.073	32.002	1.00	31.91
atom	3746	OD1	ASN	483	27.471	-18.946	32.500	1.00	30.31
atom	3747	ND2	ASN	483	29.530	-19.841	32.542	1.00	29.92
atom	3748	C	ASN	483	30.877	-17.563	29.300	1.00	26.60
atom	3749	O	ASN	483	31.177	-18.434	28.497	1.00	30.66
atom	3750	N	ARG	484	30.902	-16.271	28.997	1.00	27.04
atom	3751	CA	ARG	484	31.363	-15.830	27.687	1.00	27.37
atom	3752	CB	ARG	484	31.201	-14.317	27.520	1.00	26.13
atom	3753	CG	ARG	484	30.361	-13.921	26.325	1.00	21.21
atom	3754	CD	ARG	484	30.981	-12.821	25.556	1.00	17.82
atom	3755	NE	ARG	484	31.222	-11.629	26.361	1.00	19.84
atom	3756	CZ	ARG	484	30.484	-10.531	26.282	1.00	18.20
atom	3757	NH1	ARG	484	29.462	-10.472	25.447	1.00	22.95
atom	3758	NH2	ARG	484	30.792	-9.477	27.005	1.00	17.83
atom	3759	C	ARG	484	32.841	-16.174	27.637	1.00	26.63
atom	3760	O	ARG	484	33.268	-17.021	26.861	1.00	27.51
atom	3761	N	VAL	485	33.612	-15.507	28.491	1.00	25.94
atom	3762	CA	VAL	485	35.048	-15.721	28.581	1.00	20.15
atom	3763	CB	VAL	485	35.633	-15.070	29.836	1.00	21.83
atom	3764	CG1	VAL	485	37.121	-15.461	29.970	1.00	13.97
atom	3765	CG2	VAL	485	35.419	-13.566	29.793	1.00	7.66
atom	3766	C	VAL	485	35.399	-17.191	28.660	1.00	19.86
atom	3767	O	VAL	485	36.117	-17.710	27.815	1.00	21.45

atom	3768	N	ALA	486	34.900	-17.847	29.699	1.00	20.86
atom	3769	CA	ALA	486	35.175	-19.265	29.928	1.00	23.05
atom	3770	CB	ALA	486	34.380	-19.781	31.157	1.00	16.74
atom	3771	C	ALA	486	34.888	-20.127	28.704	1.00	19.32
atom	3772	O	ALA	486	35.545	-21.134	28.492	1.00	18.46
atom	3773	N	SER	487	33.898	-19.746	27.910	1.00	23.08
atom	3774	CA	SER	487	33.594	-20.493	26.699	1.00	25.52
atom	3775	CB	SER	487	32.197	-20.141	26.176	1.00	26.82
atom	3776	OG	SER	487	31.572	-21.282	25.597	1.00	32.23
atom	3777	C	SER	487	34.642	-20.132	25.646	1.00	23.85
atom	3778	O	SER	487	35.121	-20.981	24.903	1.00	30.98
atom	3779	N	CYS	488	35.004	-18.865	25.584	1.00	20.37
atom	3780	CA	CYS	488	35.991	-18.441	24.617	1.00	21.95
atom	3781	CB	CYS	488	36.079	-16.918	24.589	1.00	27.12
atom	3782	SG	CYS	488	37.671	-16.295	23.964	1.00	35.96
atom	3783	C	CYS	488	37.374	-19.017	24.911	1.00	22.98
atom	3784	O	CYS	488	38.218	-19.080	24.019	1.00	16.47
atom	3785	N	LEU	489	37.629	-19.425	26.153	1.00	21.12
atom	3786	CA	LEU	489	38.949	-19.966	26.456	1.00	24.98
atom	3787	CB	LEU	489	39.232	-19.926	27.959	1.00	23.49
atom	3788	CG	LEU	489	39.134	-18.554	28.631	1.00	24.48
atom	3789	CD1	LEU	489	39.791	-18.618	30.008	1.00	27.39
atom	3790	CD2	LEU	489	39.794	-17.494	27.765	1.00	15.03
atom	3791	C	LEU	489	39.055	-21.382	25.912	1.00	28.28
atom	3792	O	LEU	489	40.080	-21.754	25.336	1.00	28.63
atom	3793	N	ARG	490	37.987	-22.162	26.077	1.00	29.70
atom	3794	CA	ARG	490	37.972	-23.531	25.559	1.00	35.67
atom	3795	CB	ARG	490	36.630	-24.241	25.837	1.00	34.47
atom	3796	CG	ARG	490	35.916	-23.839	27.102	1.00	39.26
atom	3797	CD	ARG	490	36.649	-24.331	28.330	1.00	46.84
atom	3798	NE	ARG	490	37.425	-25.530	28.036	1.00	49.75
atom	3799	CZ	ARG	490	38.709	-25.685	28.338	1.00	48.63
atom	3800	NH1	ARG	490	39.375	-24.709	28.953	1.00	50.68
atom	3801	NH2	ARG	490	39.324	-26.813	28.015	1.00	45.57
atom	3802	C	ARG	490	38.173	-23.455	24.042	1.00	33.22
atom	3803	O	ARG	490	39.071	-24.085	23.488	1.00	34.18

	atom	3804	N	LYS	491	37.331	-22.651	23.396	1.00	33.18
	atom	3805	CA	LYS	491	37.350	-22.469	21.949	1.00	30.62
	atom	3806	CB	LYS	491	36.399	-21.339	21.551	1.00	31.61
	atom	3807	CG	LYS	491	36.178	-21.210	20.053	1.00	23.96
	atom	3808	CD	LYS	491	36.306	-19.782	19.606	1.00	19.54
	atom	3809	CE	LYS	491	34.973	-19.080	19.677	1.00	17.94
	atom	3810	NZ	LYS	491	35.126	-17.705	20.232	1.00	17.67
	atom	3811	C	LYS	491	38.722	-22.181	21.384	1.00	29.09
	atom	3812	O	LYS	491	39.187	-22.897	20.503	1.00	35.24
	atom	3813	N	LEU	492	39.369	-21.138	21.893	1.00	24.34
	atom	3814	CA	LEU	492	40.679	-20.755	21.401	1.00	19.50
	atom	3815	CB	LEU	492	40.993	-19.286	21.743	1.00	19.76
	atom	3816	CG	LEU	492	40.131	-18.223	21.032	1.00	21.61
	atom	3817	CD1	LEU	492	40.670	-16.834	21.255	1.00	14.82
	atom	3818	CD2	LEU	492	40.088	-18.522	19.560	1.00	20.60
	atom	3819	C	LEU	492	41.763	-21.639	21.949	1.00	19.62
	atom	3820	O	LEU	492	42.872	-21.679	21.413	1.00	19.94
	atom	3821	N	GLY	493	41.447	-22.362	23.014	1.00	20.58
	atom	3822	CA	GLY	493	42.451	-23.220	23.615	1.00	15.08
	atom	3823	C	GLY	493	43.358	-22.412	24.528	1.00	17.40
	atom	3824	O	GLY	493	44.549	-22.733	24.699	1.00	12.58
	atom	3825	N	VAL	494	42.811	-21.332	25.085	1.00	18.23
	atom	3826	CA	VAL	494	43.567	-20.505	26.029	1.00	24.48
	atom	3827	CB	VAL	494	42.927	-19.093	26.182	1.00	25.08
	atom	3828	CG1	VAL	494	43.639	-18.302	27.263	1.00	19.85
	atom	3829	CG2	VAL	494	43.032	-18.344	24.869	1.00	23.44
	atom	3830	C	VAL	494	43.523	-21.267	27.369	1.00	21.96
	atom	3831	O	VAL	494	42.544	-21.966	27.650	1.00	23.77
	atom	3832	N	PRO	495	44.591	-21.193	28.180	1.00	19.53
	atom	3833	CD	PRO	495	45.876	-20.502	27.998	1.00	22.34
	atom	3834	CA	PRO	495	44.532	-21.925	29.452	1.00	23.72
	atom	3835	CB	PRO	495	45.966	-21.847	29.992	1.00	22.00
	atom	3836	CG	PRO	495	46.564	-20.672	29.327	1.00	22.88
	atom	3837	C	PRO	495	43.495	-21.359	30.428	1.00	24.18
	atom	3838	O	PRO	495	43.237	-20.166	30.425	1.00	26.06
	atom	3839	N	PRO	496	42.867	-22.227	31.253	1.00	29.06

atom	3840	CD	PRO	496	43.117	-23.682	31.251	1.00	29.39
atom	3841	CA	PRO	496	41.843	-21.870	32.256	1.00	26.64
atom	3842	CB	PRO	496	41.639	-23.175	33.025	1.00	26.28
atom	3843	CG	PRO	496	41.942	-24.230	32.014	1.00	27.86
atom	3844	C	PRO	496	42.220	-20.709	33.191	1.00	24.39
atom	3845	O	PRO	496	43.382	-20.560	33.560	1.00	25.02
atom	3846	N	LEU	497	41.235	-19.901	33.580	1.00	22.77
atom	3847	CA	LEU	497	41.479	-18.762	34.476	1.00	25.05
atom	3848	CB	LEU	497	40.174	-18.055	34.832	1.00	22.12
atom	3849	CG	LEU	497	39.459	-17.316	33.694	1.00	24.99
atom	3850	CD1	LEU	497	37.983	-17.213	34.013	1.00	10.42
atom	3851	CD2	LEU	497	40.089	-15.948	33.486	1.00	22.67
atom	3852	C	LEU	497	42.171	-19.192	35.767	1.00	28.83
atom	3853	O	LEU	497	43.112	-18.534	36.231	1.00	30.24
atom	3854	N	ARG	498	41.709	-20.291	36.354	1.00	28.96
atom	3855	CA	ARG	498	42.318	-20.776	37.585	1.00	31.80
atom	3856	CB	ARG	498	41.849	-22.192	37.881	1.00	33.41
atom	3857	CG	ARG	498	42.803	-23.240	37.364	1.00	36.66
atom	3858	CD	ARG	498	42.101	-24.168	36.443	1.00	34.50
atom	3859	NE	ARG	498	41.020	-24.850	37.130	1.00	35.78
atom	3860	CZ	ARG	498	40.765	-26.148	37.006	1.00	41.82
atom	3861	NH1	ARG	498	41.523	-26.904	36.215	1.00	41.86
atom	3862	NH2	ARG	498	39.751	-26.691	37.672	1.00	40.78
atom	3863	C	ARG	498	43.829	-20.769	37.416	1.00	30.31
atom	3864	O	ARG	498	44.561	-20.349	38.310	1.00	33.99
atom	3865	N	VAL	499	44.285	-21.216	36.250	1.00	29.25
atom	3866	CA	VAL	499	45.712	-21.278	35.947	1.00	31.50
atom	3867	CB	VAL	499	45.972	-22.101	34.640	1.00	33.12
atom	3868	CG1	VAL	499	47.390	-21.877	34.132	1.00	28.70
atom	3869	CG2	VAL	499	45.735	-23.587	34.906	1.00	31.44
atom	3870	C	VAL	499	46.377	-19.901	35.829	1.00	31.96
atom	3871	O	VAL	499	47.547	-19.753	36.190	1.00	35.00
atom	3872	N	TRP	500	45.648	-18.901	35.324	1.00	31.77
atom	3873	CA	TRP	500	46.198	-17.546	35.181	1.00	27.36
atom	3874	CB	TRP	500	45.277	-16.663	34.333	1.00	25.16
atom	3875	CG	TRP	500	45.213	-17.041	32.882	1.00	26.28

	atom	3876	CD2	TRP	500	46.174	-16.737	31.862	1.00	26.06
	atom	3877	CE2	TRP	500	45.698	-17.303	30.658	1.00	27.61
	atom	3878	CE3	TRP	500	47.386	-16.039	31.846	1.00	29.91
	atom	3879	CD1	TRP	500	44.225	-17.760	32.270	1.00	25.36
	atom	3880	NE1	TRP	500	44.510	-17.921	30.938	1.00	25.93
	atom	3881	CZ2	TRP	500	46.396	-17.200	29.451	1.00	30.21
	atom	3882	CZ3	TRP	500	48.083	-15.934	30.645	1.00	31.35
	atom	3883	CH2	TRP	500	47.583	-16.510	29.461	1.00	32.07
	atom	3884	C	TRP	500	46.366	-16.926	36.574	1.00	28.41
	atom	3885	O	TRP	500	47.248	-16.073	36.803	1.00	23.28
	atom	3886	N	ARG	501	45.507	-17.361	37.496	1.00	27.19
	atom	3887	CA	ARG	501	45.556	-16.910	38.880	1.00	28.97
	atom	3888	CB	ARG	501	44.641	-17.780	39.747	1.00	37.11
	atom	3889	CG	ARG	501	43.168	-17.454	39.655	1.00	39.64
	atom	3890	CD	ARG	501	42.755	-16.596	40.834	1.00	51.11
	atom	3891	NE	ARG	501	41.304	-16.451	40.928	1.00	56.63
	atom	3892	CZ	ARG	501	40.664	-16.140	42.048	1.00	59.94
	atom	3893	NH1	ARG	501	41.360	-15.942	43.162	1.00	60.33
	atom	3894	NH2	ARG	501	39.334	-16.048	42.059	1.00	58.22
	atom	3895	C	ARG	501	46.993	-17.084	39.359	1.00	28.69
	atom	3896	O	ARG	501	47.698	-16.119	39.671	1.00	26.56
	atom	3897	N	HIS	502	47.425	-18.339	39.391	1.00	25.63
	atom	3898	CA	HIS	502	48.770	-18.675	39.831	1.00	28.17
	atom	3899	CB	HIS	502	48.879	-20.202	40.022	1.00	31.75
	atom	3900	CG	HIS	502	48.016	-20.733	41.133	1.00	36.89
	atom	3901	CD2	HIS	502	46.691	-20.583	41.387	1.00	40.38
	atom	3902	ND1	HIS	502	48.513	-21.507	42.159	1.00	32.91
	atom	3903	CE1	HIS	502	47.535	-21.809	42.995	1.00	34.77
	atom	3904	NE2	HIS	502	46.419	-21.262	42.550	1.00	35.75
	atom	3905	C	HIS	502	49.858	-18.148	38.888	1.00	27.48
	atom	3906	O	HIS	502	50.984	-17.881	39.306	1.00	29.54
	atom	3907	N	ARG	503	49.540	-17.997	37.612	1.00	30.63
	atom	3908	CA	ARG	503	50.531	-17.470	36.692	1.00	29.02
	atom	3909	CB	ARG	503	49.992	-17.498	35.259	1.00	29.73
	atom	3910	CG	ARG	503	50.645	-18.533	34.351	1.00	29.98
	atom	3911	CD	ARG	503	49.619	-19.560	33.919	1.00	30.05

	atom	3912	NE	ARG	503	50.134	-20.487	32.927	1.00	30.15
	atom	3913	CZ	ARG	503	49.764	-20.485	31.652	1.00	33.95
	atom	3914	NH1	ARG	503	48.878	-19.599	31.222	1.00	38.59
	atom	3915	NH2	ARG	503	50.262	-21.376	30.808	1.00	32.53
	atom	3916	C	ARG	503	50.807	-16.033	37.134	1.00	28.79
	atom	3917	O	ARG	503	51.964	-15.622	37.248	1.00	28.60
	atom	3918	N	ALA	504	49.732	-15.284	37.402	1.00	30.13
	atom	3919	CA	ALA	504	49.833	-13.880	37.832	1.00	29.74
	atom	3920	CB	ALA	504	48.439	-13.224	37.834	1.00	28.52
	atom	3921	C	ALA	504	50.513	-13.701	39.200	1.00	26.24
	atom	3922	O	ALA	504	51.160	-12.681	39.436	1.00	27.81
	atom	3923	N	ARG	505	50.353	-14.676	40.098	1.00	28.84
	atom	3924	CA	ARG	505	50.995	-14.634	41.419	1.00	27.37
	atom	3925	CB	ARG	505	50.813	-15.971	42.154	1.00	28.29
	atom	3926	CG	ARG	505	50.326	-15.869	43.598	1.00	30.58
	atom	3927	CD	ARG	505	49.435	-17.057	43.992	1.00	28.65
	atom	3928	NE	ARG	505	48.048	-16.661	44.262	1.00	29.11
	atom	3929	CZ	ARG	505	47.034	-17.515	44.419	1.00	30.61
	atom	3930	NH1	ARG	505	47.236	-18.825	44.334	1.00	34.91
	atom	3931	NH2	ARG	505	45.810	-17.065	44.661	1.00	32.55
	atom	3932	C	ARG	505	52.475	-14.410	41.148	1.00	26.98
	atom	3933	O	ARG	505	53.089	-13.495	41.697	1.00	29.63
	atom	3934	N	SER	506	53.027	-15.241	40.265	1.00	26.48
	atom	3935	CA	SER	506	54.432	-15.173	39.884	1.00	26.79
	atom	3936	CB	SER	506	54.750	-16.256	38.866	1.00	28.06
	atom	3937	OG	SER	506	56.006	-15.995	38.278	1.00	33.56
	atom	3938	C	SER	506	54.889	-13.831	39.336	1.00	28.42
	atom	3939	O	SER	506	55.780	-13.212	39.912	1.00	36.05
	atom	3940	N	VAL	507	54.292	-13.374	38.234	1.00	25.55
	atom	3941	CA	VAL	507	54.675	-12.090	37.639	1.00	20.31
	atom	3942	CB	VAL	507	53.732	-11.674	36.459	1.00	24.81
	atom	3943	CG1	VAL	507	54.470	-10.744	35.515	1.00	19.95
	atom	3944	CG2	VAL	507	53.214	-12.895	35.722	1.00	27.87
	atom	3945	C	VAL	507	54.659	-10.936	38.640	1.00	20.26
	atom	3946	O	VAL	507	55.573	-10.094	38.630	1.00	18.17
	atom	3947	N	ARG	508	53.619	-10.889	39.483	1.00	16.63

atom	3948	CA	ARG	508	53.476	-9.826	40.486	1.00	20.36
atom	3949	CB	ARG	508	52.234	-10.048	41.358	1.00	22.81
atom	3950	CG	ARG	508	52.235	-9.227	42.625	1.00	21.60
atom	3951	CD	ARG	508	50.998	-9.475	43.477	1.00	28.22
atom	3952	NE	ARG	508	51.296	-9.361	44.911	1.00	37.21
atom	3953	CZ	ARG	508	50.847	-8.379	45.689	1.00	38.38
atom	3954	NH1	ARG	508	50.076	-7.423	45.175	1.00	46.52
atom	3955	NH2	ARG	508	51.169	-8.339	46.972	1.00	28.71
atom	3956	C	ARG	508	54.691	-9.723	41.383	1.00	22.41
atom	3957	O	ARG	508	55.154	-8.626	41.671	1.00	22.27
atom	3958	N	ALA	509	55.208	-10.866	41.829	1.00	24.91
atom	3959	CA	ALA	509	56.389	-10.855	42.687	1.00	27.02
atom	3960	CB	ALA	509	56.740	-12.276	43.144	1.00	22.60
atom	3961	C	ALA	509	57.560	-10.234	41.932	1.00	28.45
atom	3962	O	ALA	509	58.210	-9.320	42.436	1.00	32.34
atom	3963	N	ARG	510	57.829	-10.722	40.724	1.00	29.56
atom	3964	CA	ARG	510	58.928	-10.180	39.924	1.00	30.26
atom	3965	CB	ARG	510	58.978	-10.870	38.562	1.00	30.46
atom	3966	CG	ARG	510	58.777	-12.369	38.607	1.00	25.33
atom	3967	CD	ARG	510	60.069	-13.055	38.961	1.00	28.12
atom	3968	NE	ARG	510	59.879	-14.419	39.451	1.00	35.39
atom	3969	CZ	ARG	510	60.226	-14.836	40.667	1.00	34.87
atom	3970	NH1	ARG	510	60.784	-13.999	41.539	1.00	33.89
atom	3971	NH2	ARG	510	60.048	-16.105	41.001	1.00	36.28
atom	3972	C	ARG	510	58.746	-8.670	39.729	1.00	32.22
atom	3973	O	ARG	510	59.712	-7.909	39.697	1.00	34.67
atom	3974	N	LEU	511	57.497	-8.234	39.602	1.00	33.14
atom	3975	CA	LEU	511	57.211	-6.812	39.424	1.00	32.24
atom	3976	CB	LEU	511	55.755	-6.617	38.985	1.00	31.16
atom	3977	CG	LEU	511	55.532	-6.888	37.492	1.00	30.87
atom	3978	CD1	LEU	511	54.132	-7.401	37.266	1.00	19.45
atom	3979	CD2	LEU	511	55.787	-5.611	36.708	1.00	25.52
atom	3980	C	LEU	511	57.479	-6.017	40.701	1.00	31.18
atom	3981	O	LEU	511	58.169	-4.989	40.669	1.00	26.79
atom	3982	N	LEU	512	56.928	-6.493	41.819	1.00	30.24
atom	3983	CA	LEU	512	57.110	-5.819	43.108	1.00	32.29

	atom	3984	CB	LEU	512	56.482	-6.619	44.261	1.00	25.88
	atom	3985	CG	LEU	512	54.984	-6.940	44.299	1.00	26.51
	atom	3986	CD1	LEU	512	54.716	-7.891	45.457	1.00	28.99
	atom	3987	CD2	LEU	512	54.165	-5.677	44.444	1.00	24.37
	atom	3988	C	LEU	512	58.594	-5.676	43.402	1.00	33.82
	atom	3989	O	LEU	512	59.094	-4.580	43.661	1.00	33.78
	atom	3990	N	SER	513	59.289	-6.803	43.335	1.00	34.94
	atom	3991	CA	SER	513	60.711	-6.866	43.630	1.00	37.95
	atom	3992	CB	SER	513	61.138	-8.332	43.650	1.00	42.15
	atom	3993	OG	SER	513	60.281	-9.073	44.514	1.00	45.41
	atom	3994	C	SER	513	61.644	-6.046	42.743	1.00	36.68
	atom	3995	O	SER	513	62.864	-6.162	42.849	1.00	35.08
	atom	3996	N	GLN	514	61.067	-5.206	41.891	1.00	37.16
	atom	3997	CA	GLN	514	61.836	-4.358	40.983	1.00	37.50
	atom	3998	CB	GLN	514	61.248	-4.429	39.569	1.00	43.16
	atom	3999	CG	GLN	514	61.986	-5.334	38.574	1.00	46.16
	atom	4000	CD	GLN	514	61.951	-4.784	37.144	1.00	48.42
	atom	4001	OE1	GLN	514	61.409	-3.700	36.886	1.00	45.55
	atom	4002	NE2	GLN	514	62.535	-5.531	36.211	1.00	43.64
	atom	4003	C	GLN	514	61.753	-2.922	41.483	1.00	37.67
	atom	4004	O	GLN	514	62.463	-2.039	41.007	1.00	35.72
	atom	4005	N	GLY	515	60.865	-2.697	42.446	1.00	38.87
	atom	4006	CA	GLY	515	60.689	-1.370	43.007	1.00	36.83
	atom	4007	C	GLY	515	60.157	-0.355	42.012	1.00	36.39
	atom	4008	O	GLY	515	60.024	-0.650	40.827	1.00	37.60
	atom	4009	N	GLY	516	59.841	0.839	42.505	1.00	33.81
	atom	4010	CA	GLY	516	59.334	1.897	41.655	1.00	33.91
	atom	4011	C	GLY	516	58.143	1.533	40.794	1.00	38.28
	atom	4012	O	GLY	516	57.298	0.722	41.181	1.00	38.92
	atom	4013	N	ARG	517	58.091	2.144	39.614	1.00	38.05
	atom	4014	CA	ARG	517	57.012	1.934	38.659	1.00	35.86
	atom	4015	CB	ARG	517	57.396	2.537	37.305	1.00	40.10
	atom	4016	CG	ARG	517	56.812	3.919	37.054	1.00	43.18
	atom	4017	CD	ARG	517	56.079	3.950	35.735	1.00	47.23
	atom	4018	NE	ARG	517	56.470	5.105	34.939	1.00	54.17
	atom	4019	CZ	ARG	517	57.512	5.130	34.112	1.00	56.95

atom	4020	NH1	ARG	517	58.279	4.056	33.965	1.00	58.23
atom	4021	NH2	ARG	517	57.794	6.237	33.436	1.00	58.13
atom	4022	C	ARG	517	56.605	0.476	38.477	1.00	31.56
atom	4023	O	ARG	517	55.414	0.160	38.475	1.00	34.95
atom	4024	N	ALA	518	57.573	-0.419	38.328	1.00	25.19
atom	4025	CA	ALA	518	57.228	-1.825	38.150	1.00	21.50
atom	4026	CB	ALA	518	58.457	-2.630	37.885	1.00	11.56
atom	4027	C	ALA	518	56.480	-2.398	39.347	1.00	22.19
atom	4028	O	ALA	518	55.663	-3.305	39.193	1.00	26.95
atom	4029	N	ALA	519	56.768	-1.867	40.534	1.00	22.61
atom	4030	CA	ALA	519	56.138	-2.303	41.782	1.00	19.97
atom	4031	CB	ALA	519	56.867	-1.669	42.975	1.00	17.81
atom	4032	C	ALA	519	54.656	-1.938	41.828	1.00	20.24
atom	4033	O	ALA	519	53.810	-2.760	42.207	1.00	19.71
atom	4034	N	THR	520	54.346	-0.697	41.453	1.00	19.16
atom	4035	CA	THR	520	52.968	-0.221	41.453	1.00	21.36
atom	4036	CB	THR	520	52.907	1.225	40.977	1.00	20.09
atom	4037	OG1	THR	520	53.970	1.952	41.595	1.00	23.76
atom	4038	CG2	THR	520	51.582	1.868	41.356	1.00	18.61
atom	4039	C	THR	520	52.059	-1.092	40.574	1.00	24.98
atom	4040	O	THR	520	50.947	-1.434	40.984	1.00	25.03
atom	4041	N	CYS	521	52.541	-1.451	39.377	1.00	23.25
atom	4042	CA	CYS	521	51.785	-2.288	38.431	1.00	21.68
atom	4043	CB	CYS	521	52.573	-2.510	37.118	1.00	21.82
atom	4044	SG	CYS	521	52.914	-1.044	36.097	1.00	17.89
atom	4045	C	CYS	521	51.504	-3.643	39.054	1.00	20.51
atom	4046	O	CYS	521	50.398	-4.168	38.959	1.00	19.81
atom	4047	N	GLY	522	52.529	-4.206	39.683	1.00	21.73
atom	4048	CA	GLY	522	52.404	-5.504	40.317	1.00	21.72
atom	4049	C	GLY	522	51.402	-5.544	41.453	1.00	23.41
atom	4050	O	GLY	522	50.619	-6.497	41.589	1.00	22.54
atom	4051	N	LYS	523	51.405	-4.492	42.256	1.00	21.41
atom	4052	CA	LYS	523	50.527	-4.425	43.406	1.00	21.80
atom	4053	CB	LYS	523	51.148	-3.442	44.416	1.00	22.06
atom	4054	CG	LYS	523	50.178	-2.735	45.320	1.00	22.90
atom	4055	CD	LYS	523	50.911	-1.834	46.293	1.00	21.46

atom	4056	CE	LYS	523	49.933	-0.961	47.083	1.00	13.21
atom	4057	NZ	LYS	523	50.606	0.324	47.409	1.00	23.93
atom	4058	C	LYS	523	49.087	-4.048	43.023	1.00	22.07
atom	4059	O	LYS	523	48.112	-4.609	43.533	1.00	21.31
atom	4060	N	TYR	524	48.951	-3.117	42.093	1.00	23.53
atom	4061	CA	TYR	524	47.624	-2.692	41.678	1.00	24.18
atom	4062	CB	TYR	524	47.707	-1.248	41.170	1.00	26.96
atom	4063	CG	TYR	524	47.799	-0.222	42.292	1.00	31.99
atom	4064	CD1	TYR	524	49.028	0.147	42.835	1.00	31.39
atom	4065	CE1	TYR	524	49.108	1.041	43.892	1.00	31.53
atom	4066	CD2	TYR	524	46.653	0.343	42.832	1.00	36.34
atom	4067	CE2	TYR	524	46.720	1.238	43.891	1.00	35.33
atom	4068	CZ	TYR	524	47.943	1.585	44.417	1.00	34.86
atom	4069	OH	TYR	524	47.983	2.452	45.486	1.00	30.70
atom	4070	C	TYR	524	46.958	-3.618	40.629	1.00	25.33
atom	4071	O	TYR	524	45.806	-4.043	40.792	1.00	22.85
atom	4072	N	LEU	525	47.686	-3.956	39.570	1.00	20.76
atom	4073	CA	LEU	525	47.109	-4.787	38.539	1.00	19.46
atom	4074	CB	LEU	525	47.957	-4.766	37.252	1.00	20.85
atom	4075	CG	LEU	525	48.736	-3.549	36.746	1.00	18.37
atom	4076	CD1	LEU	525	49.208	-3.846	35.334	1.00	19.62
atom	4077	CD2	LEU	525	47.869	-2.316	36.731	1.00	23.39
atom	4078	C	LEU	525	46.930	-6.227	38.957	1.00	19.55
atom	4079	O	LEU	525	46.037	-6.908	38.443	1.00	14.61
atom	4080	N	PHE	526	47.759	-6.710	39.879	1.00	21.79
atom	4081	CA	PHE	526	47.660	-8.129	40.239	1.00	22.87
atom	4082	CB	PHE	526	48.976	-8.848	39.882	1.00	23.31
atom	4083	CG	PHE	526	49.394	-8.686	38.425	1.00	25.42
atom	4084	CD1	PHE	526	50.444	-7.836	38.070	1.00	25.95
atom	4085	CD2	PHE	526	48.741	-9.382	37.412	1.00	22.77
atom	4086	CE1	PHE	526	50.830	-7.690	36.723	1.00	25.73
atom	4087	CE2	PHE	526	49.129	-9.233	36.054	1.00	19.20
atom	4088	CZ	PHE	526	50.166	-8.394	35.716	1.00	12.30
atom	4089	C	PHE	526	47.230	-8.493	41.645	1.00	19.74
atom	4090	O	PHE	526	47.406	-9.626	42.077	1.00	20.87
atom	4091	N	ASN	527	46.649	-7.540	42.351	1.00	20.80

atom	4092	CA	ASN	527	46.168	-7.800	43.697	1.00	22.67
atom	4093	CB	ASN	527	45.676	-6.503	44.329	1.00	21.32
atom	4094	CG	ASN	527	45.875	-6.480	45.820	1.00	27.69
atom	4095	OD1	ASN	527	47.001	-6.622	46.320	1.00	26.48
atom	4096	ND2	ASN	527	44.786	-6.298	46.550	1.00	22.52
atom	4097	C	ASN	527	45.025	-8.824	43.661	1.00	26.89
atom	4098	O	ASN	527	44.758	-9.504	44.654	1.00	29.14
atom	4099	N	TRP	528	44.360	-8.933	42.509	1.00	26.74
atom	4100	CA	TRP	528	43.245	-9.863	42.334	1.00	22.63
atom	4101	CB	TRP	528	42.511	-9.588	40.999	1.00	23.42
atom	4102	CG	TRP	528	43.373	-9.841	39.769	1.00	22.88
atom	4103	CD2	TRP	528	43.737	-11.119	39.226	1.00	16.34
atom	4104	CE2	TRP	528	44.716	-10.891	38.224	1.00	16.94
atom	4105	CE3	TRP	528	43.341	-12.430	39.493	1.00	16.31
atom	4106	CD1	TRP	528	44.109	-8.909	39.074	1.00	21.03
atom	4107	NE1	TRP	528	44.920	-9.533	38.151	1.00	20.51
atom	4108	CZ2	TRP	528	45.307	-11.930	37.491	1.00	12.66
atom	4109	CZ3	TRP	528	43.935	-13.478	38.757	1.00	22.18
atom	4110	CH2	TRP	528	44.908	-13.214	37.770	1.00	10.51
atom	4111	C	TRP	528	43.770	-11.295	42.350	1.00	24.25
atom	4112	O	TRP	528	43.006	-12.246	42.533	1.00	20.16
atom	4113	N	ALA	529	45.081	-11.444	42.172	1.00	27.26
atom	4114	CA	ALA	529	45.700	-12.772	42.137	1.00	28.52
atom	4115	CB	ALA	529	46.966	-12.742	41.293	1.00	19.41
atom	4116	C	ALA	529	46.023	-13.306	43.523	1.00	30.29
atom	4117	O	ALA	529	45.648	-14.427	43.861	1.00	35.11
atom	4118	N	VAL	530	46.725	-12.507	44.317	1.00	33.55
atom	4119	CA	VAL	530	47.103	-12.910	45.670	1.00	33.91
atom	4120	CB	VAL	530	47.857	-11.769	46.412	1.00	31.28
atom	4121	CG1	VAL	530	48.789	-11.047	45.464	1.00	26.39
atom	4122	CG2	VAL	530	46.874	-10.791	47.004	1.00	29.38
atom	4123	C	VAL	530	45.875	-13.319	46.486	1.00	36.28
atom	4124	O	VAL	530	44.759	-12.853	46.236	1.00	38.88
atom	4125	N	LYS	531	46.090	-14.191	47.465	1.00	38.17
atom	4126	CA	LYS	531	45.017	-14.687	48.327	1.00	38.07
atom	4127	CB	LYS	531	45.476	-15.987	48.995	1.00	39.85

	atom	4128	CG	LYS	531	46.671	-16.647	48.300	1.00	38.60
	atom	4129	CD	LYS	531	47.946	-15.836	48.534	1.00	43.75
	atom	4130	CE	LYS	531	49.106	-16.300	47.666	1.00	42.42
	atom	4131	NZ	LYS	531	49.773	-17.500	48.247	1.00	43.42
	atom	4132	C	LYS	531	44.593	-13.644	49.378	1.00	36.13
	atom	4133	O	LYS	531	43.404	-13.304	49.494	1.00	36.59
	atom	4134	N	THR	532	45.560	-13.142	50.143	1.00	29.06
	atom	4135	CA	THR	532	45.271	-12.122	51.142	1.00	26.83
	atom	4136	CB	THR	532	46.183	-12.237	52.362	1.00	27.27
	atom	4137	OG1	THR	532	46.813	-13.520	52.364	1.00	35.92
	atom	4138	CG2	THR	532	45.371	-12.051	53.638	1.00	26.98
	atom	4139	C	THR	532	45.512	-10.779	50.479	1.00	23.15
	atom	4140	O	THR	532	46.638	-10.298	50.392	1.00	17.89
	atom	4141	N	LYS	533	44.444	-10.161	50.019	1.00	24.30
	atom	4142	CA	LYS	533	44.610	-8.915	49.313	1.00	30.02
	atom	4143	CB	LYS	533	43.330	-8.601	48.543	1.00	34.16
	atom	4144	CG	LYS	533	43.261	-9.297	47.186	1.00	42.24
	atom	4145	CD	LYS	533	41.884	-9.901	46.917	1.00	44.15
	atom	4146	CE	LYS	533	41.955	-11.415	46.751	1.00	46.89
	atom	4147	NZ	LYS	533	41.927	-11.827	45.328	1.00	43.79
	atom	4148	C	LYS	533	44.993	-7.746	50.186	1.00	30.92
	atom	4149	O	LYS	533	44.629	-7.697	51.363	1.00	34.83
	atom	4150	N	LEU	534	45.748	-6.809	49.613	1.00	32.89
	atom	4151	CA	LEU	534	46.119	-5.607	50.338	1.00	32.08
	atom	4152	CB	LEU	534	47.526	-5.142	49.986	1.00	30.92
	atom	4153	CG	LEU	534	48.112	-5.387	48.608	1.00	35.03
	atom	4154	CD1	LEU	534	47.865	-4.160	47.762	1.00	33.89
	atom	4155	CD2	LEU	534	49.621	-5.677	48.725	1.00	32.33
	atom	4156	C	LEU	534	45.101	-4.549	49.960	1.00	34.40
	atom	4157	O	LEU	534	44.462	-4.653	48.919	1.00	34.91
	atom	4158	N	LYS	535	44.925	-3.551	50.824	1.00	37.40
	atom	4159	CA	LYS	535	43.961	-2.480	50.580	1.00	34.10
	atom	4160	CB	LYS	535	43.499	-1.866	51.911	1.00	36.92
	atom	4161	CG	LYS	535	41.986	-1.841	52.114	1.00	38.59
	atom	4162	CD	LYS	535	41.402	-0.439	51.877	1.00	44.81
	atom	4163	CE	LYS	535	41.745	0.537	53.041	1.00	48.73

atom	4164	NZ	LYS	535	41.791	2.007	52.687	1.00	35.50
atom	4165	C	LYS	535	44.569	-1.399	49.695	1.00	33.67
atom	4166	O	LYS	535	45.465	-0.651	50.111	1.00	33.50
atom	4167	N	LEU	536	44.062	-1.302	48.475	1.00	31.05
atom	4168	CA	LEU	536	44.574	-0.317	47.536	1.00	28.88
atom	4169	CB	LEU	536	44.148	-0.686	46.120	1.00	20.05
atom	4170	CG	LEU	536	44.814	-2.001	45.746	1.00	17.34
atom	4171	CD1	LEU	536	44.447	-2.418	44.336	1.00	14.63
atom	4172	CD2	LEU	536	46.316	-1.828	45.895	1.00	16.21
atom	4173	C	LEU	536	44.157	1.104	47.866	1.00	29.61
atom	4174	O	LEU	536	42.984	1.383	48.100	1.00	29.85
atom	4175	N	THR	537	45.148	1.987	47.916	1.00	28.82
atom	4176	CA	THR	537	44.927	3.396	48.186	1.00	30.68
atom	4177	CB	THR	537	46.005	3.978	49.116	1.00	34.05
atom	4178	OG1	THR	537	47.102	4.463	48.325	1.00	37.16
atom	4179	CG2	THR	537	46.505	2.923	50.095	1.00	37.83
atom	4180	C	THR	537	45.055	4.086	46.833	1.00	31.45
atom	4181	O	THR	537	45.804	3.629	45.972	1.00	30.15
atom	4182	N	PRO	538	44.314	5.176	46.617	1.00	29.13
atom	4183	CD	PRO	538	43.325	5.821	47.497	1.00	30.93
atom	4184	CA	PRO	538	44.434	5.844	45.321	1.00	29.71
atom	4185	CB	PRO	538	43.652	7.135	45.511	1.00	31.77
atom	4186	CG	PRO	538	42.634	6.788	46.578	1.00	32.13
atom	4187	C	PRO	538	45.900	6.075	44.973	1.00	30.50
atom	4188	O	PRO	538	46.692	6.472	45.831	1.00	29.48
atom	4189	N	ILE	539	46.257	5.796	43.719	1.00	28.66
atom	4190	CA	ILE	539	47.626	5.955	43.261	1.00	30.89
atom	4191	CB	ILE	539	47.843	5.328	41.855	1.00	32.12
atom	4192	CG2	ILE	539	49.236	5.640	41.357	1.00	23.73
atom	4193	CG1	ILE	539	47.669	3.808	41.922	1.00	33.30
atom	4194	CD1	ILE	539	47.241	3.163	40.605	1.00	32.29
atom	4195	C	ILE	539	47.978	7.425	43.212	1.00	35.32
atom	4196	O	ILE	539	47.301	8.217	42.561	1.00	36.86
atom	4197	N	PRO	540	49.040	7.810	43.923	1.00	42.57
atom	4198	CD	PRO	540	49.869	6.899	44.735	1.00	45.45
atom	4199	CA	PRO	540	49.500	9.203	43.973	1.00	47.52

	atom	4200	CB	PRO	540	50.494	9.224	45.134	1.00	47.95
	atom	4201	CG	PRO	540	50.913	7.798	45.335	1.00	46.55
	atom	4202	C	PRO	540	50.135	9.671	42.667	1.00	51.52
	atom	4203	O	PRO	540	49.905	10.793	42.228	1.00	52.60
	atom	4204	N	ALA	541	50.937	8.810	42.053	1.00	53.79
	atom	4205	CA	ALA	541	51.592	9.151	40.797	1.00	58.44
	atom	4206	CB	ALA	541	52.733	8.168	40.535	1.00	61.73
	atom	4207	C	ALA	541	50.600	9.147	39.621	1.00	60.41
	atom	4208	O	ALA	541	50.855	8.529	38.582	1.00	58.45
	atom	4209	N	ALA	542	49.473	9.839	39.793	1.00	62.52
	atom	4210	CA	ALA	542	48.433	9.920	38.766	1.00	62.72
	atom	4211	CB	ALA	542	47.760	8.558	38.601	1.00	64.28
	atom	4212	C	ALA	542	47.384	10.967	39.142	1.00	64.21
	atom	4213	O	ALA	542	46.574	10.739	40.046	1.00	64.50
	atom	4214	N	SER	543	47.391	12.105	38.450	1.00	64.02
	atom	4215	CA	SER	543	46.428	13.173	38.725	1.00	61.74
	atom	4216	CB	SER	543	46.552	13.643	40.180	1.00	60.37
	atom	4217	OG	SER	543	45.414	13.287	40.952	1.00	56.95
	atom	4218	C	SER	543	46.654	14.352	37.788	1.00	61.94
	atom	4219	O	SER	543	47.593	14.261	36.965	1.00	63.12
	atom	4220	CB	LEU	547	43.716	10.598	30.109	1.00	46.53
	atom	4221	CG	LEU	547	44.915	9.938	30.813	1.00	41.86
	atom	4222	CD1	LEU	547	44.610	8.464	31.097	1.00	39.82
	atom	4223	CD2	LEU	547	46.162	10.064	29.939	1.00	40.47
	atom	4224	C	LEU	547	42.571	12.609	29.095	1.00	50.18
	atom	4225	O	LEU	547	41.655	11.854	28.772	1.00	53.79
	atom	4226	N	LEU	547	44.121	12.899	30.947	1.00	47.33
	atom	4227	CA	LEU	547	43.855	12.084	29.729	1.00	50.02
	atom	4228	N	SER	548	42.516	13.923	28.930	1.00	51.66
	atom	4229	CA	SER	548	41.354	14.582	28.350	1.00	52.11
	atom	4230	CB	SER	548	41.366	16.070	28.731	1.00	53.79
	atom	4231	OG	SER	548	42.546	16.705	28.255	1.00	56.74
	atom	4232	C	SER	548	41.320	14.440	26.823	1.00	50.14
	atom	4233	O	SER	548	40.273	14.124	26.250	1.00	47.18
	atom	4234	N	GLY	549	42.472	14.666	26.185	1.00	47.75
	atom	4235	CA	GLY	549	42.576	14.589	24.733	1.00	46.46

atom	4236	C	GLY	549	42.238	13.259	24.083	1.00	43.60
atom	4237	O	GLY	549	41.764	13.209	22.947	1.00	45.49
atom	4238	N	TRP	550	42.472	12.183	24.819	1.00	40.58
atom	4239	CA	TRP	550	42.230	10.830	24.349	1.00	37.12
atom	4240	CB	TRP	550	42.491	9.850	25.479	1.00	33.40
atom	4241	CG	TRP	550	43.931	9.703	25.814	1.00	39.27
atom	4242	CD2	TRP	550	44.542	8.594	26.472	1.00	38.11
atom	4243	CE2	TRP	550	45.913	8.884	26.586	1.00	39.99
atom	4244	CE3	TRP	550	44.060	7.385	26.985	1.00	40.66
atom	4245	CD1	TRP	550	44.928	10.594	25.557	1.00	38.74
atom	4246	NE1	TRP	550	46.122	10.111	26.013	1.00	39.45
atom	4247	CZ2	TRP	550	46.814	8.004	27.177	1.00	39.82
atom	4248	CZ3	TRP	550	44.950	6.513	27.571	1.00	41.68
atom	4249	CH2	TRP	550	46.315	6.829	27.669	1.00	40.92
atom	4250	C	TRP	550	40.821	10.610	23.850	1.00	37.72
atom	4251	O	TRP	550	40.592	9.901	22.854	1.00	36.59
atom	4252	N	PHE	551	39.877	11.218	24.555	1.00	36.18
atom	4253	CA	PHE	551	38.480	11.055	24.225	1.00	33.96
atom	4254	CB	PHE	551	37.799	10.321	25.371	1.00	30.39
atom	4255	CG	PHE	551	38.513	9.055	25.777	1.00	25.23
atom	4256	CD1	PHE	551	39.427	9.054	26.826	1.00	27.56
atom	4257	CD2	PHE	551	38.266	7.857	25.115	1.00	27.89
atom	4258	CE1	PHE	551	40.091	7.860	27.216	1.00	24.35
atom	4259	CE2	PHE	551	38.920	6.656	25.492	1.00	19.97
atom	4260	CZ	PHE	551	39.828	6.664	26.541	1.00	22.33
atom	4261	C	PHE	551	37.791	12.370	23.892	1.00	35.69
atom	4262	O	PHE	551	36.898	12.843	24.607	1.00	35.41
atom	4263	N	VAL	552	38.232	12.935	22.770	1.00	32.09
atom	4264	CA	VAL	552	37.725	14.186	22.237	1.00	29.85
atom	4265	CB	VAL	552	38.901	15.090	21.838	1.00	31.14
atom	4266	CG1	VAL	552	38.469	16.069	20.772	1.00	29.68
atom	4267	CG2	VAL	552	39.442	15.809	23.065	1.00	28.42
atom	4268	C	VAL	552	36.854	13.902	20.998	1.00	27.42
atom	4269	O	VAL	552	35.723	14.361	20.902	1.00	27.21
atom	4270	N	ALA	553	37.394	13.130	20.065	1.00	24.42
atom	4271	CA	ALA	553	36.697	12.783	18.829	1.00	23.14

atom	4272	CB	ALA	553	36.902	13.877	17.785	1.00	18.35
atom	4273	C	ALA	553	37.228	11.468	18.280	1.00	20.69
atom	4274	O	ALA	553	38.277	10.987	18.709	1.00	18.72
atom	4275	N	GLY	554	36.497	10.897	17.328	1.00	18.56
atom	4276	CA	GLY	554	36.918	9.657	16.701	1.00	15.95
atom	4277	C	GLY	554	37.778	9.988	15.492	1.00	19.28
atom	4278	O	GLY	554	37.555	10.992	14.817	1.00	17.64
atom	4279	N	TYR	555	38.756	9.138	15.201	1.00	22.01
atom	4280	CA	TYR	555	39.639	9.399	14.079	1.00	24.13
atom	4281	CB	TYR	555	40.937	10.005	14.595	1.00	20.22
atom	4282	CG	TYR	555	40.748	11.356	15.221	1.00	19.94
atom	4283	CD1	TYR	555	40.759	11.516	16.607	1.00	18.14
atom	4284	CE1	TYR	555	40.695	12.784	17.180	1.00	20.60
atom	4285	CD2	TYR	555	40.651	12.490	14.427	1.00	18.09
atom	4286	CE2	TYR	555	40.587	13.747	14.984	1.00	18.43
atom	4287	CZ	TYR	555	40.622	13.888	16.351	1.00	19.06
atom	4288	OH	TYR	555	40.673	15.148	16.863	1.00	24.90
atom	4289	C	TYR	555	39.985	8.216	13.197	1.00	26.88
atom	4290	O	TYR	555	40.916	8.304	12.400	1.00	30.02
atom	4291	N	SER	556	39.272	7.106	13.315	1.00	30.32
atom	4292	CA	SER	556	39.629	5.978	12.464	1.00	37.27
atom	4293	CB	SER	556	38.942	4.690	12.933	1.00	37.51
atom	4294	OG	SER	556	37.535	4.827	12.988	1.00	51.44
atom	4295	C	SER	556	39.263	6.293	11.020	1.00	37.29
atom	4296	O	SER	556	38.051	6.322	10.719	1.00	38.86
atom	4297	OT	SER	556	40.198	6.526	10.221	1.00	34.94
atom	4298	O	HOH	601	46.597	10.920	10.721	1.00	20.61
atom	4299	O	HOH	602	22.175	2.399	-11.303	1.00	39.23
atom	4300	O	HOH	603	22.555	-6.018	20.759	1.00	25.24
atom	4301	O	HOH	604	10.699	23.284	3.535	1.00	11.38
atom	4302	O	HOH	605	33.779	-15.862	-12.840	1.00	32.40
atom	4303	O	HOH	606	23.250	-5.255	39.290	1.00	19.05
atom	4304	O	HOH	607	56.607	18.994	13.165	1.00	29.80
atom	4305	O	HOH	608	32.158	-6.088	14.607	1.00	26.14
atom	4306	O	HOH	609	56.341	-19.171	32.102	1.00	30.79
atom	4307	O	HOH	610	42.183	-16.676	46.222	1.00	43.54

atom	4308	O	HOH	611	45.029	9.354	9.054	1.00	41.58
atom	4309	O	HOH	612	47.451	26.726	6.177	1.00	47.73
atom	4310	O	HOH	613	2.470	-1.802	27.736	1.00	38.21
atom	4311	O	HOH	614	47.043	21.787	16.034	1.00	23.91
atom	4312	O	HOH	615	34.075	17.253	18.692	1.00	22.58
atom	4313	O	HOH	616	50.817	23.460	-12.759	1.00	40.31
atom	4314	O	HOH	617	38.747	2.676	9.078	1.00	25.13
atom	4315	O	HOH	618	35.002	0.690	23.109	1.00	15.25
atom	4316	O	HOH	619	52.799	16.218	-9.314	1.00	39.47
atom	4317	O	HOH	620	57.492	32.252	19.690	1.00	51.60
atom	4318	O	HOH	621	24.538	-2.398	-12.767	1.00	35.98
atom	4319	O	HOH	622	45.774	-26.860	17.172	1.00	47.38
atom	4320	O	HOH	623	16.918	-0.379	-0.855	1.00	50.73
atom	4321	O	HOH	624	35.816	-18.589	0.233	1.00	41.40
atom	4322	O	HOH	625	48.368	29.897	14.750	1.00	21.51
atom	4323	O	HOH	626	36.518	3.819	41.949	1.00	11.95
atom	4324	O	HOH	627	43.658	6.306	-16.389	1.00	42.56
atom	4325	O	HOH	628	48.323	10.990	7.196	1.00	23.08
atom	4326	O	HOH	629	38.139	-19.255	43.774	1.00	44.50
atom	4327	O	HOH	630	34.071	6.076	12.772	1.00	24.32
atom	4328	O	HOH	631	58.322	10.881	14.337	1.00	39.25
atom	4329	O	HOH	632	26.691	26.778	4.448	1.00	28.44
atom	4330	O	HOH	633	53.979	24.631	19.675	1.00	54.93
atom	4331	O	HOH	634	2.628	2.180	11.312	1.00	36.74
atom	4332	O	HOH	635	5.149	14.418	28.631	1.00	35.56
atom	4333	O	HOH	636	32.587	-3.817	12.697	1.00	63.31
atom	4334	O	HOH	637	27.170	-9.280	31.802	1.00	24.21
atom	4335	O	HOH	638	43.450	5.359	10.944	1.00	36.10
atom	4336	O	HOH	639	26.062	-12.225	14.751	1.00	49.87
atom	4337	O	HOH	640	14.706	7.497	-5.096	1.00	18.84
atom	4338	O	HOH	641	57.477	-14.762	35.981	1.00	28.21
atom	4339	O	HOH	642	51.547	9.783	48.172	1.00	53.68
atom	4340	O	HOH	643	30.933	-6.757	-7.733	1.00	35.43
atom	4341	O	HOH	644	25.070	13.151	5.827	1.00	2.00
atom	4342	O	HOH	645	56.672	-10.309	18.187	1.00	45.96
atom	4343	O	HOH	646	11.579	20.415	6.160	1.00	28.95

	atom	4344	O	HOH	647	27.916	-15.124	2.287	1.00	18.06
	atom	4345	O	HOH	648	35.221	2.326	34.458	1.00	25.12
	atom	4346	O	HOH	649	38.312	9.262	36.937	1.00	67.07
	atom	4347	O	HOH	650	46.258	6.938	4.683	1.00	24.22
	atom	4348	O	HOH	651	42.606	-3.262	36.649	1.00	21.46
	atom	4349	O	HOH	652	40.235	11.518	20.853	1.00	27.91
	atom	4350	O	HOH	653	22.794	25.287	5.447	1.00	26.04
	atom	4351	O	HOH	654	38.206	9.504	-13.291	1.00	30.62
	atom	4352	O	HOH	655	45.226	13.150	18.803	1.00	18.63
	atom	4353	O	HOH	656	33.031	-18.621	22.852	1.00	44.32
	atom	4354	O	HOH	657	9.650	-6.271	22.144	1.00	32.02
	atom	4355	O	HOH	658	30.463	24.471	-1.145	1.00	18.42
	atom	4356	O	HOH	659	41.452	8.031	8.619	1.00	20.10
	atom	4357	O	HOH	660	24.327	5.781	5.531	1.00	13.22
	atom	4358	O	HOH	661	47.983	6.984	-10.411	1.00	60.77
	atom	4359	O	HOH	662	30.966	-22.909	5.590	1.00	36.24
	atom	4360	O	HOH	663	33.405	-1.565	17.123	1.00	38.51
	atom	4361	O	HOH	664	21.076	7.717	-8.594	1.00	32.16
	atom	4362	O	HOH	665	16.982	24.733	15.974	1.00	34.58
	atom	4363	O	HOH	666	26.953	23.531	1.354	1.00	31.58
	atom	4364	O	HOH	667	40.572	-13.743	44.640	1.00	37.35
	atom	4365	O	HOH	668	31.441	0.335	7.724	1.00	41.72
	atom	4366	O	HOH	669	47.678	-7.636	13.712	1.00	31.80
	atom	4367	O	HOH	670	46.557	22.825	-11.411	1.00	67.81
	atom	4368	O	HOH	671	21.234	10.081	-2.885	1.00	10.38
	atom	4369	O	HOH	672	31.211	-1.023	4.408	1.00	24.09
	atom	4370	O	HOH	673	50.141	-6.813	-11.682	1.00	21.54
	atom	4371	O	HOH	674	33.244	15.024	-9.889	1.00	67.86
	atom	4372	O	HOH	675	38.979	11.058	31.410	1.00	26.12
	atom	4373	O	HOH	676	34.118	11.305	3.467	1.00	28.25
	atom	4374	O	HOH	677	46.763	-27.510	31.664	1.00	52.83
	atom	4375	O	HOH	678	35.099	2.565	8.047	1.00	28.30
	atom	4376	O	HOH	679	9.176	25.088	4.798	1.00	18.72
	atom	4377	O	HOH	680	14.704	13.412	25.182	1.00	48.26
	atom	4378	O	HOH	681	6.438	4.023	3.328	1.00	61.72
	atom	4379	O	HOH	682	32.219	15.747	2.622	1.00	38.25

	atom	4380	O	HOH	683	31.014	-13.129	15.368	1.00	36.02
	atom	4381	O	HOH	684	41.423	22.998	-13.412	1.00	46.45
	atom	4382	O	HOH	685	41.073	14.541	32.544	1.00	57.67
	atom	4383	O	HOH	686	41.923	30.239	10.109	1.00	24.51
	atom	4384	O	HOH	687	13.043	1.835	1.524	1.00	45.08
	atom	4385	O	HOH	688	36.384	1.728	2.325	1.00	23.11
	atom	4386	O	HOH	689	38.926	-12.759	41.527	1.00	26.09
	atom	4387	O	HOH	690	13.533	4.342	-1.256	1.00	53.49
	atom	4388	O	HOH	691	42.859	-30.767	29.292	1.00	49.63
	atom	4389	O	HOH	692	46.981	-5.614	-11.265	1.00	28.30
	atom	4390	O	HOH	693	34.904	-2.672	2.841	1.00	25.95
	atom	4391	O	HOH	694	22.975	23.743	2.224	1.00	32.47
	atom	4392	O	HOH	695	45.861	14.150	31.270	1.00	37.81
	atom	4393	O	HOH	696	46.016	15.972	22.828	1.00	88.18
	atom	4394	O	HOH	697	13.753	-0.702	38.177	1.00	52.89
	atom	4395	O	HOH	698	34.502	16.040	22.414	1.00	27.95
	atom	4396	O	HOH	699	22.706	27.973	10.089	1.00	35.75
	atom	4397	O	HOH	700	63.426	-24.001	17.375	1.00	42.25
	atom	4398	O	HOH	701	34.349	9.690	1.548	1.00	9.34
	atom	4399	O	HOH	702	41.163	2.343	49.912	1.00	27.48
	atom	4400	O	HOH	703	9.851	15.333	21.500	1.00	58.68
	atom	4401	O	HOH	704	44.019	27.355	14.119	1.00	23.41
	atom	4402	O	HOH	705	47.294	-8.487	10.420	1.00	28.83
	atom	4403	O	HOH	706	-0.567	-15.964	21.058	1.00	71.82
	atom	4404	O	HOH	707	45.139	17.223	28.013	1.00	36.95
	atom	4405	O	HOH	708	54.938	29.596	18.826	1.00	45.27
	atom	4406	O	HOH	709	56.658	-1.774	11.129	1.00	59.82
	atom	4407	O	HOH	710	41.378	-2.253	48.336	1.00	83.26
	atom	4408	O	HOH	711	34.016	0.844	32.187	1.00	19.51
	atom	4409	O	HOH	712	40.079	23.922	18.790	1.00	40.86
	atom	4410	O	HOH	713	23.939	16.548	-6.662	1.00	73.98
	atom	4411	O	HOH	714	43.805	-5.760	37.997	1.00	33.15
	atom	4412	O	HOH	715	43.983	12.763	7.024	1.00	49.45
	atom	4413	O	HOH	716	17.467	-6.790	34.490	1.00	60.85
	atom	4414	O	HOH	717	57.128	-9.673	7.961	1.00	47.78
	atom	4415	O	HOH	718	28.310	-13.504	15.674	1.00	32.19

	atom	4416	O	HOH	719	48.350	12.483	24.005	1.00	59.90
	atom	4417	O	HOH	720	19.085	8.242	-9.951	1.00	25.97
	atom	4418	O	HOH	721	55.772	11.621	19.184	1.00	35.36
	atom	4419	O	HOH	722	7.019	15.603	32.528	1.00	63.48
	atom	4420	O	HOH	723	36.866	-13.652	15.802	1.00	27.53
	atom	4421	O	HOH	724	43.517	24.315	-12.119	1.00	35.85
	atom	4422	O	HOH	725	37.708	-15.785	39.175	1.00	54.73
	atom	4423	O	HOH	726	5.217	0.089	34.330	1.00	62.89
	atom	4424	O	HOH	727	22.932	16.773	24.935	1.00	39.55
	atom	4425	O	HOH	728	57.302	-9.957	-7.609	1.00	30.04
	atom	4426	O	HOH	729	7.732	5.303	-6.078	1.00	77.38
	atom	4427	O	HOH	730	20.565	18.229	-3.485	1.00	34.46
	atom	4428	O	HOH	731	40.313	14.721	37.485	1.00	45.60
	atom	4429	O	HOH	732	45.334	-26.610	3.300	1.00	52.20
	atom	4430	O	HOH	733	21.456	12.342	33.566	1.00	43.56
	atom	4431	O	HOH	734	53.572	28.112	-7.495	1.00	34.62
	atom	4432	O	HOH	735	44.392	3.535	-16.228	1.00	30.67
	atom	4433	O	HOH	736	21.788	26.910	17.354	1.00	29.40
	atom	4434	O	HOH	737	1.982	-17.218	22.679	1.00	34.59
	atom	4435	O	HOH	738	49.791	-14.945	51.490	1.00	29.55
	atom	4436	O	HOH	739	65.383	-10.773	31.724	1.00	21.33
	atom	4437	O	HOH	740	48.882	-23.983	38.693	1.00	27.07
	atom	4438	O	HOH	741	38.324	18.978	30.698	1.00	51.87
	atom	4439	O	HOH	742	18.500	12.871	19.098	1.00	37.82
	atom	4440	O	HOH	743	43.444	-24.077	3.285	1.00	34.56
	atom	4441	O	HOH	744	19.073	14.997	20.678	1.00	31.54
	atom	4442	O	HOH	745	43.718	14.040	-9.258	1.00	48.86
	atom	4443	O	HOH	746	19.757	12.108	21.932	1.00	16.56
	atom	4444	O	HOH	747	28.539	-1.306	9.121	1.00	19.91
	atom	4445	O	HOH	748	33.299	13.289	28.355	1.00	31.35
	atom	4446	O	HOH	749	55.796	5.609	21.850	1.00	25.26
	atom	4447	O	HOH	750	71.236	-9.462	30.197	1.00	16.58
	atom	4448	O	HOH	751	48.317	16.021	28.186	1.00	53.92
	atom	4449	O	HOH	752	37.023	-14.017	-12.141	1.00	60.05
	atom	4450	O	HOH	753	47.056	10.022	14.240	1.00	16.37
	atom	4451	O	HOH	754	41.937	-14.514	-12.014	1.00	28.96

	atom	4452	O	HOH	755	58.191	18.257	-4.318	1.00	24.23
	atom	4453	O	HOH	756	34.855	15.167	-13.410	1.00	26.63
	atom	4454	O	HOH	757	46.083	7.332	-4.348	1.00	41.74
	atom	4455	O	HOH	758	34.334	19.475	20.562	1.00	36.75
	atom	4456	O	HOH	759	48.439	12.298	18.766	1.00	37.20
	atom	4457	O	HOH	760	26.446	9.654	-7.040	1.00	24.37
	atom	4458	O	HOH	761	43.303	7.883	-11.435	1.00	27.78
	atom	4459	O	HOH	762	20.443	18.574	16.107	1.00	41.69
	atom	4460	O	HOH	763	48.286	15.033	32.831	1.00	57.35
	atom	4461	O	HOH	764	10.893	18.980	16.387	1.00	59.57
	atom	4462	O	HOH	765	34.601	4.808	35.497	1.00	43.50
	atom	4463	O	HOH	766	31.888	17.167	-8.403	1.00	52.16
	atom	4464	O	HOH	767	36.373	-3.491	21.106	1.00	13.51
	atom	4465	O	HOH	768	23.246	19.202	-6.517	1.00	41.10
	atom	4466	O	HOH	769	45.743	17.021	-5.597	1.00	31.22
	atom	4467	O	HOH	770	33.244	-13.586	18.326	1.00	41.46
	atom	4468	O	HOH	771	57.928	30.606	16.929	1.00	38.33
	atom	4469	O	HOH	772	69.124	-11.949	27.989	1.00	69.32
	atom	4470	O	HOH	773	29.727	-22.652	27.281	1.00	30.26
	atom	4471	O	HOH	774	37.839	-4.465	13.760	1.00	22.09
	atom	4472	O	HOH	775	41.248	-0.915	16.241	1.00	49.75
	atom	4473	O	HOH	776	32.612	-23.200	24.163	1.00	53.24
	atom	4474	O	HOH	777	47.550	17.765	-7.284	1.00	30.72
	atom	4475	O	HOH	778	22.460	12.258	5.644	1.00	12.35
	atom	4476	O	HOH	779	6.843	19.969	17.253	1.00	24.63
	atom	4477	O	HOH	780	-1.037	0.592	12.041	1.00	32.13
	atom	4478	O	HOH	781	16.879	16.213	-1.036	1.00	31.03
	atom	4479	O	HOH	782	4.952	-10.654	24.420	1.00	66.04
	atom	4480	O	HOH	783	30.976	21.960	23.463	1.00	26.66
	atom	4481	O	HOH	784	54.549	-16.852	43.639	1.00	44.86
	atom	4482	O	HOH	785	35.858	0.543	37.145	1.00	32.91
	atom	4483	O	HOH	786	37.629	0.228	45.081	1.00	25.52
	atom	4484	O	HOH	787	34.090	-24.595	29.357	1.00	44.67
	atom	4485	O	HOH	788	51.277	31.211	-7.019	1.00	41.33
	atom	4486	O	HOH	789	30.912	-2.933	10.609	1.00	72.82
	atom	4487	O	HOH	790	58.746	-7.303	-10.029	1.00	58.21

atom	4488	O	HOH	791	53.940	14.157	19.431	1.00	35.15
atom	4489	O	HOH	792	32.011	-0.149	14.251	1.00	47.16
atom	4490	O	HOH	793	13.553	23.341	8.528	1.00	53.03
atom	4491	O	HOH	794	37.675	-7.811	-8.912	1.00	44.94
atom	4492	O	HOH	795	48.715	-0.365	3.142	1.00	41.74
atom	4493	O	HOH	796	50.589	-16.659	6.378	1.00	18.40
atom	4494	O	HOH	797	44.199	-19.067	6.859	1.00	36.05
atom	4495	O	HOH	798	53.441	-26.855	20.517	1.00	50.57
atom	4496	O	HOH	799	49.408	-26.628	20.724	1.00	50.72
atom	4497	O	HOH	800	52.640	-19.756	30.198	1.00	47.50
atom	4498	O	HOH	801	18.857	3.501	-9.706	1.00	21.84
atom	4499	O	HOH	802	17.896	1.182	-11.952	1.00	32.00
atom	4500	O	HOH	803	13.919	4.000	-10.397	1.00	46.84
atom	4501	O	HOH	804	11.557	5.995	-4.803	1.00	48.55
atom	4502	O	HOH	805	11.140	9.279	7.880	1.00	25.88
atom	4503	O	HOH	806	18.676	16.664	2.033	1.00	34.39
atom	4504	O	HOH	807	27.433	31.963	16.774	1.00	20.95
atom	4505	O	HOH	808	53.253	29.573	9.882	1.00	33.76
atom	4506	O	HOH	809	54.907	28.009	11.555	1.00	52.31
atom	4507	O	HOH	810	62.641	11.739	-4.252	1.00	32.53
atom	4508	O	HOH	811	65.068	5.329	5.372	1.00	54.51
atom	4509	O	HOH	812	65.803	8.849	4.108	1.00	47.37
atom	4510	O	HOH	813	43.721	20.002	-11.175	1.00	30.38
atom	4511	O	HOH	814	34.406	-17.139	17.170	1.00	41.80
atom	4512	O	HOH	815	34.703	-23.625	4.105	1.00	61.03
atom	4513	O	HOH	816	34.197	-17.469	3.287	1.00	44.37
atom	4514	O	HOH	817	50.104	7.478	-2.288	1.00	25.23
atom	4515	O	HOH	818	41.677	18.551	18.796	1.00	45.33
atom	4516	O	HOH	819	38.682	19.681	20.416	1.00	45.22
atom	4517	O	HOH	820	11.768	4.457	37.706	1.00	51.55
atom	4518	O	HOH	821	8.218	0.919	37.720	1.00	44.65
atom	4519	O	HOH	822	3.397	-1.753	33.199	1.00	33.07
atom	4520	O	HOH	823	34.080	1.178	3.231	1.00	31.48
atom	4521	O	HOH	824	31.348	10.501	-7.664	1.00	31.78
atom	4522	O	HOH	825	38.108	4.850	-12.161	1.00	31.16
atom	4523	O	HOH	826	38.982	10.342	10.406	1.00	32.25

	atom	4524	O	HOH	827	5.149	5.654	13.265	1.00	31.34
	atom	4525	O	HOH	828	6.416	-8.088	20.222	1.00	49.34
	atom	4526	O	HOH	829	-1.858	-3.132	18.913	1.00	33.22
	atom	4527	O	HOH	830	11.873	9.162	4.510	1.00	29.62
	atom	4528	O	HOH	831	19.232	-5.660	17.559	1.00	26.97
	atom	4529	O	HOH	832	12.983	-8.915	15.306	1.00	41.69
	atom	4530	O	HOH	833	18.416	-11.585	21.008	1.00	35.22
	atom	4531	O	HOH	834	22.507	-3.262	33.451	1.00	77.42
	atom	4532	O	HOH	835	26.191	-1.017	24.576	1.00	26.33
	atom	4533	O	HOH	836	36.425	-0.682	16.799	1.00	25.51
	atom	4534	O	HOH	837	36.167	2.136	19.428	1.00	35.47
	atom	4535	O	HOH	838	31.892	-9.361	18.329	1.00	38.04
	atom	4536	O	HOH	839	29.958	0.247	50.234	1.00	39.65
	atom	4537	O	HOH	840	25.664	-2.880	45.446	1.00	25.56
	atom	4538	O	HOH	841	28.111	-11.787	23.722	1.00	20.36
	atom	4539	O	HOH	842	25.802	-13.741	20.864	1.00	48.90
	atom	4540	O	HOH	843	66.721	-13.408	27.755	1.00	46.58
	atom	4541	O	HOH	844	64.307	-3.316	36.898	1.00	35.37
	atom	4542	O	HOH	845	65.583	-0.436	36.938	1.00	37.85
	atom	4543	O	HOH	846	41.048	-10.431	50.836	1.00	29.82
	atom	4544	O	HOH	847	41.737	18.341	25.701	1.00	64.44
	atom	4545	O	HOH	848	30.918	-2.921	-11.856	1.00	30.43
	atom	4546	O	HOH	849	51.446	22.839	17.216	1.00	43.87
	atom	4547	O	HOH	850	60.785	2.614	-0.874	1.00	35.10
	atom	4548	O	HOH	851	56.838	-0.895	2.586	1.00	49.62
	atom	4549	O	HOH	852	47.396	10.491	-8.843	1.00	52.54
	atom	4550	O	HOH	853	38.574	-14.690	4.444	1.00	30.06
	atom	4551	O	HOH	854	18.756	-0.542	39.542	1.00	39.05
	atom	4552	O	HOH	855	29.513	29.579	6.595	1.00	36.41
	atom	4553	O	HOH	856	32.813	33.195	8.357	1.00	28.63
	atom	4554	O	HOH	857	40.705	7.094	-13.994	1.00	29.74
	atom	4555	O	HOH	858	50.499	1.421	-2.924	1.00	31.42
	atom	4556	O	HOH	859	47.470	0.293	-15.630	1.00	26.52
	atom	4557	O	HOH	860	46.826	-4.091	15.608	1.00	27.08
	atom	4558	O	HOH	861	43.465	-1.915	20.388	1.00	50.46
	atom	4559	O	HOH	862	39.396	-8.251	42.274	1.00	25.43

atom	4560	O	HOH	863	62.025	-4.244	31.799	1.00	24.26
atom	4561	O	HOH	864	51.328	10.747	31.485	1.00	32.16
atom	4562	O	HOH	865	35.283	7.979	42.362	1.00	38.81
atom	4563	O	HOH	866	57.095	-18.565	40.803	1.00	52.30
atom	4564	O	HOH	867	58.155	-2.683	46.266	1.00	22.74
atom	4565	O	HOH	868	48.057	20.382	-12.222	1.00	50.35
atom	4566	O	HOH	869	49.547	0.925	0.838	1.00	51.45
atom	4567	O	HOH	870	46.392	4.053	4.644	1.00	50.25
atom	4568	O	HOH	871	17.601	15.375	19.352	1.00	65.08
atom	4569	O	HOH	872	4.479	9.329	31.775	1.00	36.17
atom	4570	O	HOH	873	22.319	18.788	-0.495	1.00	24.87
atom	4571	O	HOH	874	35.839	30.245	-0.342	1.00	48.51
atom	4572	O	HOH	875	48.453	2.849	-6.547	1.00	33.73
atom	4573	O	HOH	876	0.605	7.424	25.945	1.00	39.41
atom	4574	O	HOH	877	2.396	-3.829	13.234	1.00	30.89
atom	4575	O	HOH	878	14.152	-2.287	5.419	1.00	18.22
atom	4576	O	HOH	879	35.704	-8.865	16.297	1.00	31.23
atom	4577	O	HOH	880	47.890	11.218	33.219	1.00	51.93
atom	4578	O	HOH	881	35.361	8.156	33.971	1.00	47.66
atom	4579	O	HOH	882	40.052	7.610	41.373	1.00	36.84
atom	4580	O	HOH	883	56.929	-15.208	46.351	1.00	55.62
atom	4581	O	HOH	884	52.052	-0.414	49.836	1.00	55.41

[0022]

The structure of the HCV polymerase was visualized using the program software RasMol (Free Soft, Roger Sayle, Glaxo Research & Development, Greenford, Middlesex, UK) (Fig. 1).

The HCV polymerase belongs to the space group of $P4_32_12$ of a = b = 63.7 Å, c = 262.9 Å, and is 67 x 63 x 68 Å spherical protein comprising the cone shape in the structure. The HCV polymerase has a glove-like structure shown in Fig. 1, comprising Fingers, Palm, Thumb, and Holder domains.

The Holder domain had an unknown structure, which had not been found even in the poliovirus (Structure 5, 1109-1122 (1997)).

Fig. 2 schematically shows the structure of the HCV polymerase.

The Finger domain comprises four ? sheets and one ? helix, similar

to the structure of the HIV reverse transcriptase, although there is no amino acid sequence similarity to this enzyme. There are two long loops (one loop extending from the N-terminus to ? A helix, and the other loop between ?1 and ?2), and a reticular net is formed from the lower part of the cone shape to the upper end of the Thumb domain. The lower part of the net is open, and presumably is the entrance for the substrate ribonucleoside triphosphate (rNTP).

As described above, in the crystal structure of the poliovirus polymerase (Structure 5, 1109-1122 (1997)), the structure of the Finger domain is disordered except for the net end containing a short helix in which the Finger domain extends to the Thumb domain. The region corresponding to the connecting region between the Holder and Palm domains in the HCV polymerase was identified as the Finger domain, however, most of the rest of the structure in the Finger domain has not been revealed yet.

The Holder domain consists of two helixes, ?H and ?I, located as if supporting this region, a part of each of ?C, ?D, ?E, and ?F, and a long loop that looks like it is inserted into the Finger and Palm domains between ?D and ?E. This domain forms a valley which is one wall of the cone shape between the Palm domain and this domain, and the U-shaped valley between the Finger domain and the domain. In two valleys, basic amino acid residues align, which are positively charged. The positively charged surface conveniently binds to a negatively charged template, and therefore, the U-shaped valley is considered to be an entrance for template RNA.

The Palm domain comprises a structure similar to HIV reverse transcriptase, *E. coli*, or Taq DNA-dependent DNA polymerase and T7 DNA-dependent polymerase.

The Thumb domain consists of six binding helixes, ?P helix, and two distorted ? sheets connecting to the Palm domain. The core structure of this domain comprises a structure similar to the HIV reverse transcriptase. The ? sheet extending from the apex of the Thumb domain consists of nonhydrophilic residues, except for the hydrophilic junction, and hangs down to the center of the cone shape, as if pushing the C-terminal nonhydrophilic region. This characteristic long apex is not observed in other polymerases. In

fact, the C-terminus-deficient variant has a reportedly high RNA-dependent RNA polymerase activity (J. Virol. 73, 1649-54 (1999)). C-terminal nonhydrophilic region is thought to be involved with membrane adhesion and to have a function in stabilizing the cone shape.

The N-terminus of the HCV polymerase forms a mimic ? sheet at the center of the Finger domain with ?5. This means that N-terminus-truncated variants lose the replicase activity.

[0023]

[Example 3]

Determination of the active site and the additional inhibitor-binding site in the HCV polymerase

As described above, the Palm domain of the HCV polymerase has a structure similar to HIV reverse transcriptase, *E. coli* or Taq DNA-dependent DNA polymerase, and T7 DNA-dependent polymerase. Comparison of the conserved region between the active site of these known Palm domains and the Palm domain of the HCV polymerase deduced that the active site is

(1) the space formed by Asp 220, 318, and 319, and conserved residues between ?1 and ?2 of the Fingers domain, Lys 141 and Arg 158, and

(2) the hydrophilic cavity, receiving 2'-OH in ribose of rNTP, formed by Ser 282, Thr 287, and Asn 291, conserved in proximity to position 225.

Fig. 3 compares the amino acid sequences of the HCV polymerase, poliovirus polymerase, and HIV reverse transcriptase. HCV, POLIO, and HIVRT in the figure indicate HCV polymerase, poliovirus polymerase, and HIV reverse transcriptase, respectively. The underlined sequences indicate the parts where the structures have not been clarified by the above structure analysis.

Asp 225 corresponds to Tyr 115 of the HIV reverse transcriptase and this difference of the amino acids presumably determines whether the substrate is rNTP or dNTP. Arg 158 and Lys 141, the conserved residues between ?1 and ?2 of the Fingers domain, would have an important role in the binding of rNTP.

The Thumb domain of the HCV polymerase can structurally move against the Palm and Fingers domains and this movement results in

the inner space of the Palm domain. This space was confirmed to be formed by the regions of amino acids 213 to 223, 310 to 325, and 348 to 366, by considering the crystal structure thereof. A compound existing in this space presumably inhibits the spatial formation. It is rationally assumed that the above-described region of the Palm domain is an additional inhibitor-binding site. The inner space was revealed to be an additional inhibitor-binding site for HCV polymerase. The region may thus shift 1 to 20, preferably 1 to 10, and more preferably 1 to 5 amino acids.

Lys 90, 98, and 172, and Arg 106 and 168 in the Holder domain, Arg 48 in the Finger domain, and Arg 465 in the Thumb domain are located within 5 Å from the phosphodiester of the template in the template/primer binding model. These amino acids would have an important role on the binding of the template/primer.

[0024]

[Effects of the Invention]

The present invention allows the selection of compounds having HCV polymerase-inhibiting activity using computers and such. A leading compound and derivative peripheral compounds can be rationally designed. Furthermore, in synthesis experiments, useless synthesis can be obviated, and biological activity tests can be efficiently performed.

[0025]

[Sequence Listing]

SEQUENCE LISTING

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<120> HCV polymerase for crystal structure analysis and use of the crystal structure

<130> J99-0250

<140>

<141>

<150> JP P1999-188630
<151> 1999-07-02

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<170> PatentIn Ver. 2.0

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20 25 30

His His Asn Met Val Tyr Ala Thr Thr Ser Arg Ser Ala Gly Leu Arg
35 40 45

Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp His Tyr
50 55 60

Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val Lys Ala
65 70 75 80

Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro His Ser
85 90 95

Ala Lys Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn Leu Ser
100 105 110

Ser Lys Ala Val Asn His Ile His Ser Val Trp Lys Asp Leu Leu Glu
115 120 125

Asp Thr Val Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn Glu Val
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180 185 190

Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn Thr Trp
195 200 205

Lys Ser Lys Lys Asn Pro Met Gly Phe Ser Tyr Asp Thr Arg Cys Phe
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Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser Ile Tyr
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245 250 255

Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln
260 265 270

Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser
275 280 285

Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Cys Arg
290 295 300

Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Asn Gly Asp Asp Leu
305 310 315 320

Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Ala Ala Ser Leu
325 330 335

Arg Val Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro Gly Asp
340 345 350

Pro Pro Gln Pro Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys Ser Ser
355 360 365

Asn Val Ser Val Ala His Asp Ala Ser Gly Lys Arg Val Tyr Tyr Leu
370 375 380

Thr Arg Asp Pro Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu Thr Ala
385 390 395 400

Arg His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met Tyr Ala
405 410 415

Pro Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe Ser Ile
420 425 430

Leu Leu Ala Gln Glu Gln Leu Glu Lys Ala Leu Asp Cys Gln Ile Tyr
435 440 445

Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Gln Ile Ile Glu
450 455 460

Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser Pro Gly
465 470 475 480

Glu Ile Asn Arg Val Ala Ser Cys Leu Arg Lys Leu Gly Val Pro Pro
485 490 495

Leu Arg Val Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg Leu Leu
500 505 510

Ser Gln Gly Gly Arg Ala Ala Thr Cys Gly Lys Tyr Leu Phe Asn Trp
515 520 525

Ala Val Lys Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala Ser Gln
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<220>
<223> Description of Artificial Sequence:Artificial nucleic acid sequence for primer.

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<210> 4
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<220>
<223> Description of Artificial Sequence:Artificial nucleic acid sequence for protein.

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[Brief Description of the Drawings]

[Fig. 1]

The crystal structure of the HCV polymerase produced by using the program software RasMol is shown.

[Fig. 2]

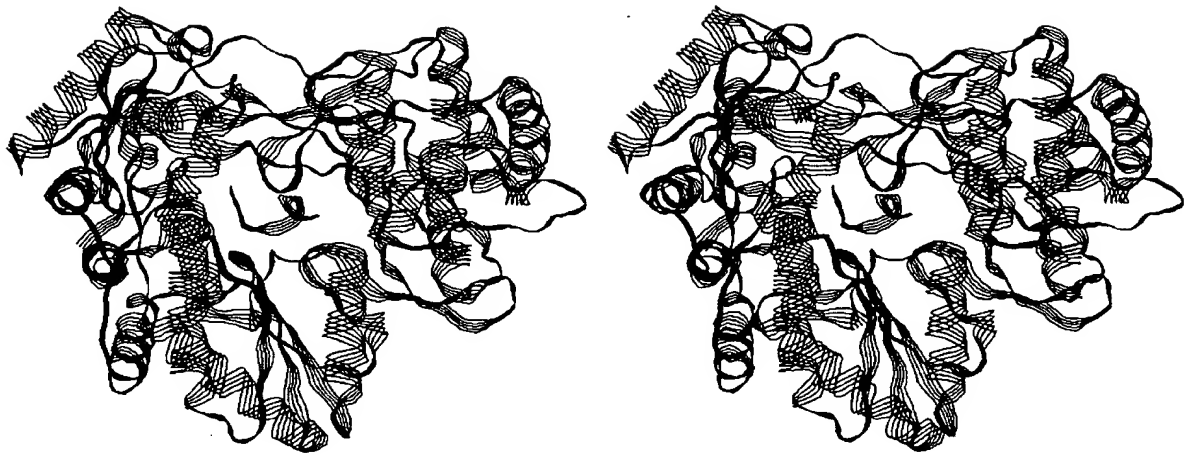
The crystal structure of the HCV polymerase is schematically shown.

[Fig. 3]

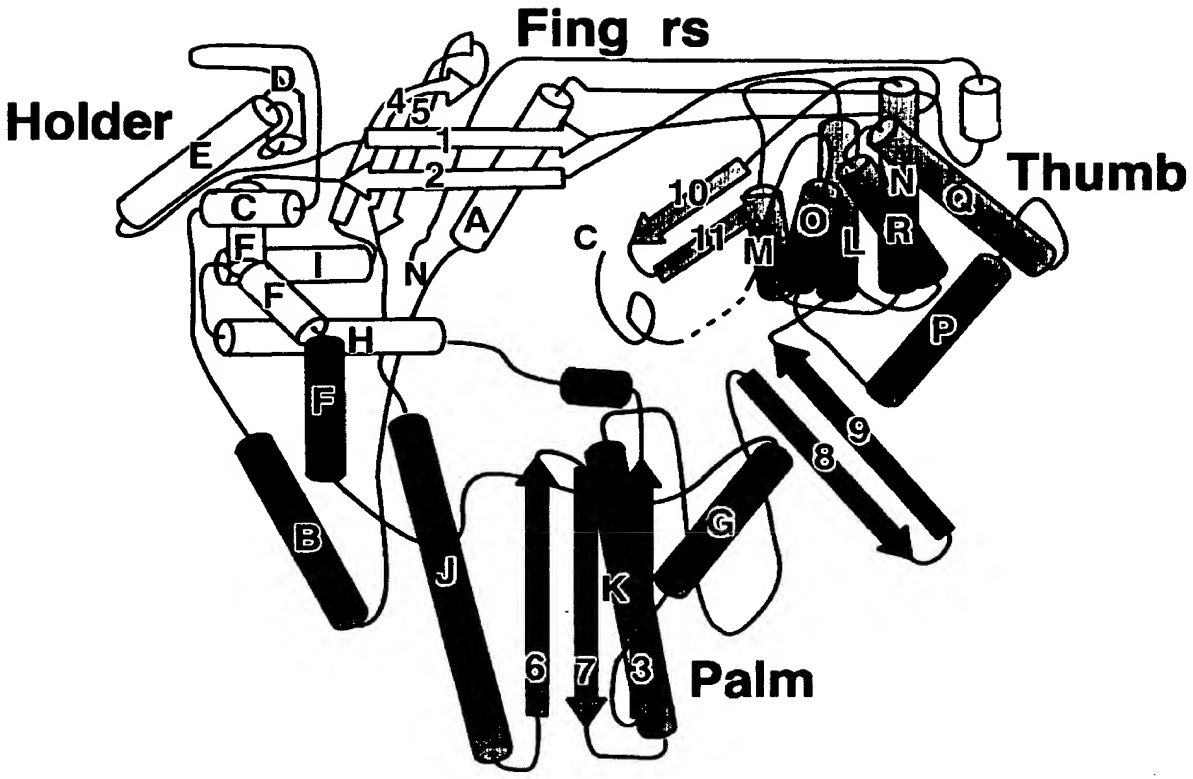
Comparison between amino acid sequences of HCV polymerase, poliovirus polymerase, and HIV reverse transcriptase are shown.

[Document Name] Drawings

[Fig. 1]



[Fig. 2]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11
M
O
L
N
R
Q
P
H
F
B
J
K
G
9
8
6
7
3

[Fig. 3]


A B C
HCV
POLIO
HIVRT
100 D E 1 2 F F F 200
HCV
POLIO
HIVRT
G 3 220 225 H I 4 5 J
HCV
POLIO
HIVRT
300 6 7 K 8 9
HCV
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HIVRT
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HIVRT
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HCV
POLIO
HIVRT

[Document Name] Abstract

[Abstract]

[Objective] The objective of the present invention is to provide recombinant HCV polymerases suitable for crystal analysis and a method for using the structural coordinate thereof.

[Constitution] Novel HCV polymerases whose crystal structure is stabilized and the gene thereof are disclosed. Furthermore, the structural coordinate of an HCV polymerase is determined, and an active site and an additional inhibitor-binding site are identified. Also provided are methods for designing and evaluating HCV polymerase inhibitors by using computers and the structural coordinate of HCV polymerase.